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Original Articles.

LARYNGEAL SPASM IN ADULTS, WITH THE REPORT OF TWO CASES, ONE OF GOUTY, THE OTHER OF UNDETERMINED ORIGIN.[1]

BY FREDERICK C. SHATTUCK, M.D.

THE irritation which gives rise to laryngeal spasm may be seated within the larynx itself, as in the case of a foreign body, tumor, ulceration, etc.; in the course of the laryngeal nerves, as by the pressure of an enlarged thyroid or bronchial glands; or in the central nervous system, as in locomotor ataxia. In all the above cases, there are definite and localized anatomical changes; but we also meet with spasm of the glottis in cases where an explanation for the symptom is not so easily given, and we are compelled to suppose the existence of a peculiarly irritable condition of the nervous system, depending on defective nutrition, or the presence in the blood of some toxic agent. Spasm occurs, for instance, though rarely, in children apparently free from any other manifestation of rickets; and, when such manifestations are present, we do not know how often enlargement of the bronchial glands may or may not be regarded as the exciting cause. Gueneau de Mussy went so far as to maintain that in swelling of these glands lies the chief, if not invariable, cause of the spasms of whooping-cough, but his views have never won anything like general acceptance.

That the affection which forms the subject of my remarks is much more common in children, and that in childhood — leaving pertussis out of consideration — the largest contingent of cases occurs in connection with rickets, are facts which will not be disputed. For these facts, moreover, the great functional activity of the sympathetic system during the period of most rapid growth, and the consequent unstable equilibrium, seem to afford an adequate explanation.

In adults, apart from foreign bodies and intra-laryngeal tumors, hysteria, or pressure on the recurrent sufficient to excite, but insufficient to abolish the function of the nerve, laryngeal spasm is rare. Its connection with posterior spinal sclerosis has been made out only comparatively recently. That it should occur so seldom in cases of laryngitis, which, in every grade, is so common an affection, is as remarkable as it is fortunate, considering the great discomfort and alarm to which the symptom is apt to give rise. Fatal cases are very rare, but are recorded.

In 1876, Charcot first described, and up to 1879 saw four cases, to which he applied the term laryngeal vertigo. The striking feature of these cases is loss of consciousness following cough, which, in its turn, follows a burning or tickling sensation in the region of the larynx. McBride, in the Appendix to his translation of Gottstein's "Diseases of the Larynx," has collected six other cases, one of which came under his own observation. Charcot is inclined to consider the affection the analogue of Menière's disease, the irritation being conveyed through the superior laryngeal, the sensitive nerve of the larynx, stimulation of which produces spasm of the glottis. McBride and Krishaber, however, seem to think the cases are really simply spasmodic.

In the two cases which I shall now briefly report, laryngeal spasm is the most prominent symptom. In the first case, there certainly seems to be no sufficient cause in the larynx itself, and careful physical examination fails to detect anatomical changes elsewhere at the door of which the symptom can be laid. Lead was found in the urine by a most competent analyst, and this agent is mentioned by Steffen, in his contribution to "Ziemssen's Cyclopædia," as a cause of laryngeal spasm. It has, unfortunately, not been possible to follow up the case, and whether the cause lies really in plumbism, or in functional disturbance of the central nervous system, I cannot determine. In the second case, the spasm seems to be clearly of gouty origin.

January 12th, 1883, Mr. A., forty-eight years of age, a shopkeeper, came to my office, referred to me by Dr. W. H. Workman, of Worcester, and gave the following history. A grandfather had paralysis at the age of sixty, but lived for ten years afterward. No special hereditary tendency to disease was detected. He is the third of a family of eleven, eight of whom are alive and well. Has never used alcohol or tobacco, is moderate with tea and coffee, and eats only twice a day — at 7 A. M. and 2 P. M. — and then rather sparingly. His occupation necessarily involves a good deal of confinement in poor air. The right arm is ill-developed and nearly useless, the result, apparently, of infantile paralysis: he uses the left hand in writing. Twelve years ago, he started in business in Boston, had up-hill work and much anxiety about his affairs until a year or two ago, but kept his worries entirely to himself, not speaking about them even to his wife. Within the last six years or so, has had four attacks of pain in the right hypochondrium, not attended by jaundice; the pain was severe enough to demand morphia subcutaneously, and with each attack, he was laid up for a short time. His physician, a homœopath, pronounced the attacks bilious colic.

Somewhere about the time of the first of the above attacks, he was troubled with hoarseness, and he also noticed that talking fatigued him, sometimes more, sometimes less: these symptoms he attributed to excessive singing, a practice of which he had been very fond. He has never been specially subject to colds, nor does he now take cold easily. His voice has remained more or less hoarse ever since, and talking is a great fatigue to him; so much so, that he generally remains silent at home on returning from his store, and at the store, acts as cashier, in order to avoid, as far as possible, being compelled to talk. He has his good days and bad days, but the use of his voice is seldom unattended by discomfort.

About four years ago he experienced, for the first time, an attack of "choking," a sensation as if he were grasped by the throat, or as if something he had eaten had gone the wrong way. The attack was very distressing while it lasted, and left him very weak for twenty-four hours. He can assign no satisfactory cause for the spasm other than his hoarseness. Very soon after this, he consulted Drs. Bowditch and Knight, who, he reports, detected nothing wrong with him other than a laryngitis. Again, two years ago, he consulted these gentlemen, with a like result. He has now had four of these "choking spells," the last, and by far, the most severe, a few nights since. He went to bed about nine o'clock, as usual, after a day marked by no noteworthy occurrence, and at eleven was awakened out of a sound sleep by a strangling sensation: before he fairly knew what he was doing, he was on his feet, went to the window, opened it, struggled across the

[1] Read before the Boston Society for Medical Improvement, December 28, 1885.

room and back to the window before the spasm relaxed and air could enter his chest. He was very much alarmed by this attack, from which he began to fear he should not recover, and he did not dare to sleep again that night. He felt extremely weak, and kept the house all the next day, as he has done after each attack of the kind. His general health he reports as excellent, but he does not wish a recurrence of the spasm. On laryngoscopic examination, I was surprised to find the evidences of only a slight chronic laryngeal catarrh, no greater than I have often seen in persons not notably hoarse, or otherwise suffering from decided symptoms. A careful examination of the chest and throat externally, failed to detect anything abnormal. The pulse was 84, regular, and the artery felt normal. The left naso-labial fold was less distinct than the other, and the angles of the mouth were not symmetrical, a change which was remarked upon by a friend and noticed by himself perhaps six months ago. The muscles, however, moved properly, and I could detect no other modification of any of the other facial or of the ocular muscles, or of the tongue. The laryngeal changes were so slight it seemed to me not improbable that the source of the spasm lay in some distant part, and I advised the patient to consult Dr. Webber, and have a thorough examination of his nervous system. Dr. Webber reported to me that he found nothing additional, except total deafness of the left ear, but he was inclined to suspect that the attacks of so-called bilious colic might be due to lead. Mr. A. had always taken special pains about his drinking water — he lived out of town — which he was sure was above suspicion; but he was put upon potassic iodide for a week, and the urine was then examined by Dr. Wood, who reported that he found a small amount of lead.

Meantime, the patient used some mild inhalations, and found marked relief to his hoarseness from Wyeth's pellets of chloride of ammonium and chlorate of potash, and one or two other remedies. The relief was, however, only intermittent: February 9th, he reported that he had a slight threatening of spasm that morning, and February 22d, he wrote that he was no better, and has not consulted me since.

In reply to a letter of inquiry from me a few days ago, he says he has had no spasm since February, 1883; his general health is good; there is a constant sensation in his throat as if water were trickling down it; he is obliged to sleep in almost a sitting posture and upon his back — the moment he gets on his side, "that dreadful feeling" comes on. He further reports that talking is quite as painful and difficult for him as it was — to use his own words — "I am never introduced or go into company, if I can possibly avoid it. Some time ago, wife and I went to a friend's birthday party; I was introduced and seated by a lady I never saw before; I could not speak a loud word, and was so mortified, that as soon as I could, I bid our friends good bye, and said I would never go into company again. No one can know how hard it is to bear, except those who are afflicted. I have not had any treatment since I saw you."

The following are Dr. Bowditch's notes of this case: Aged forty-four; consulted me February 1, 1879. (He says that, many years before he had consulted me, and that paralysis of one vocal cord was found. I could find no record of this in my notes). When four years old, he had a fall, striking the back of the head, followed by severe paralysis of the right arm, and partial paralysis since two years after the accident. At the time of visit, this arm was weaker than the other; since the fall, he had had some deafness of the left ear. For three or four months before my seeing him, he had, occasionally, at night, sudden attacks of dyspnœa, from which he would recover easily on sitting up in bed. He had some difficulty in speaking clearly. At times during the day, was hoarse and unable to utter certain words.

Three or four weeks before his visit, had been suddenly seized, while writing at his desk, with a feeling as if he could not breathe. No wheezing, but a croupy, hoarse sound in speaking. He was greatly distressed and thought he was going to die, and as if his heart would cease to beat. During the paroxysms, he became red in the face. Frequent milder attacks in the day, since. Two of the severest paroxysms having occurred the two nights before he called on me. I found that he had no cough nor dyspnœa ordinarily. The thorax was large and vesicular murmur good everywhere. Perhaps a slight difference in lower part of the left back. Percussion everywhere good. No abnormal heart phenomena noticed. He had, in conversation, apparently, severe labor in speaking. Digestion and other functions perfect.

Dr. Knight reported catarrh of the pharnyx, and a few enlarged follicles. There was congestion of the mucous membrane of the arytenoid cartilages and epiglottic folds, quite moderate congestion, also, of the edges of the vocal cords, considerable of the laryngeal surface of the epiglottis. Motion of vocal cords on phonation, but voice altered by mucus between them. Our diagnosis was "Nervous Laryngeal Trouble." No further record made, as the patient did not return.

CASE II. Mr. B., a bachelor of about forty, inherits gout, and has had several acute attacks during the last fifteen years or so. Since he became openly gouty, he has had a number of attacks of laryngeal spasm which come on at night without any obvious exciting cause, wake him from a sound sleep, and are, to use a mild expression, intensely disagreeable.

January 13, 1883, he felt a severe cold coming on, but, having accepted an invitation to a sleighing party, betook himself to the appointed place for starting. His cold was so decided, however, that he withdrew, dined at the Club, went home, and was in bed by ten, taking a hot drink. He soon fell asleep, but towards morning, his brother-in-law, who occupied the room below, was wakened by a heavy fall on the floor, hastened up stairs, and found Mr. B. struggling for breath: the spasm soon relaxed somewhat and he was got to bed, but he suffered much from great oppression in the chest, as well as from recurrent milder attacks of spasm. About 6 A. M., Dr. F. B. Greenough was summoned, and I will make some quotations from a letter he wrote that day, failing to find me at home when he called to ask me to take charge of the case, he confining himself now strictly to special practice.

"The most distressing symptom when I was called was an evident spasm of the larynx, which caused a strident, choking, gasping for breath. The sputa, while I was there, was clear, pure, bright-red blood, without, apparently, any mucus, and there was none of that harassing cough which I have always seen in cases of violent congestion. There were no positive abnormal physical signs in the chest, the pulse was rather small and over 100; he was not blue, nor was his respiration very hurried, but there was this catch in the

larynx, which made it hard for him to draw his breath. He had a feeling of nausea, and I should have given him an emetic had I not feared that vomiting might aggravate the spasm, and that if undigested food were thrown up, it might get down into the trachea. He did throw up a little bilious fluid while I was there, and it gave him an awful spasm of strangling, that was overcome only by a whiff of ether. At one time, I felt that if the symptoms of congestion did not clear up, as they did, it would be a question of the propriety of venesection."

The patient himself reported that the symptoms of congestion were much worse before Dr. Greenough saw him, that the laryngeal spasm alone was, by far, the most severe he had ever had, and that the combination was one which he hoped never again to experience. I saw him first at 2 P. M., January 14, when he was comparatively comfortable. The pulse was 84, full and strong, respiration, 20; temperature, 99.5. The voice was hoarse, and talking was painful; there was marked substernal soreness, but no pain elsewhere in the chest, the examination of which gave negative results. In a cup, was a small amount of sputum, very similar to that of pneumonia. The urine had a density of 1030, was free from albumen, but loaded with lithates. At 9 P. M., the pulse, respiration, and temperature remained the same.

January 15. He reported a fair night, without anodyne, and felt better; he had raised half a dozen bloody sputa during the night. Pulse, 66; respiration, 20; temperature, 98.5. January 16. Further improvement. Pulse, 50; rather small for so large a man. Complained of pain in the back, and of acute pain in the heel, such as he had had in previous gouty attacks. The urine was scanty, with high specific gravity and deposited lithates. Under alkalies and other suitable treatment, the pain in the heel and other symptoms soon cleared up, and in a week, he was in usual health, and there was no recurrence of the spasm. In the following June, the very night after his return from three weeks in the Maine woods, he had his next spasm; this was Thursday night, and Saturday he sailed for Europe, en route for Carlsbad. On reaching London, he was laid up a fortnight with the worst bout of gout he ever has had, but struggled on to the Continent as quickly as he could. He was greatly benefited by his stay in Carlsbad, returned home in September, and ever since, a period of more than two years, has been very well. He has had, during this time, one mild attack of spasm, with several threatenings. He believes that he has found a sure cure for the spasm in a small quantity of pure gin, a flask of which he now invariably keeps at his bedside. With the exception of the attack which has been described in detail, the spasm has never been connected with taking cold.

— The Natural History Museum at Vienna, has just been presented with 708 skulls collected through a series of years by Dr. Weissbach, who was for a long time Director of the Austro-Hungarian Hospital at Constantinople, and was a very distinguished anthropological investigator. Of the collection, 195 are pure Turkish skulls, 131 Greek, 96 Servian or Croat, 48 Hungarian, 43 Armenian, 29 old Byzantine. There are also skulls of Maronites, Albanians, Koords, Asiatic Jews, etc.

A CASE OF CONCUSSION FOLLOWED BY PARALYSES, POINTING TO HÆMORRHAGE INTO THE FISSURE OF ROLANDO.[1]

BY G. L. WALTON, M.D.

The surgical interest of this case lies in the fact that the region of the cortex invaded is an important site for operative interference through the guidance of cerebral localization. Whatever doubt remains regarding the functions of other parts of the brain, the fact is practically established that the motor centres for the opposite side of the body are congregated about the fissure of Rolando, although this conclusion may seem sometimes contradicted through commissural connections and secondary changes in brain structure, incident to inflammatory processes. The symptoms in this case point to a primary circumscribed lesion in this region, without misleading complications.

The patient (admitted to Massachusetts General Hospital, in the service of Dr. Porter), a man of twenty-three, was struck about six weeks ago, while standing on the ice of a stream, by a tree which fell from the bank. One branch struck him on the vertex to the right of the median line, another on the left shoulder. Unconsciousness of some hours followed, on recovery from which he found his left leg powerless. He could not move his left arm, whether simply from pain or from paralysis, he cannot tell. His face was not, at that time, he says, drawn to one side. When brought to the hospital the next day, he was very restless and noisy, complained of headache, had frequent outbursts of crying, seemed, at times, hardly accountable for his actions, answered questions, as a rule, coherently, though in a rather silly manner. He is said to have bled from the nose and left ear after the injury, but nothing of the sort appeared at the hospital. The left shoulder was greatly swollen, front and back, but careful examination revealed nothing beyond severe contusion and considerable ecchymoses (Dr. Porter). The patient, when admitted, could not use the left arm nor leg, and the face was drawn to the right. When I first saw the patient (a week after admission), the face was decidedly drawn to the right, through paralysis of the left facial nerve (of which the lower branches alone were affected). There was almost complete motor paralysis of the left arm, without atrophy. In the left leg was found only paralysis of the peroneal muscles, exaggerated knee-jerk and ankle-clonus. There was no sensory paralysis nor loss of any special sense. The pupils were alike and reacted normally. The patient was still restless, noisy, and emotional. The treatment consisted in ice to the head, bromide of potassium, chloral and ergot, cathartics, and low diet. Improvement has been steady. The leg is now practically well, although a trace of clonus remains. The mental condition is fair; the intelligence is still below par, whether lower than before the accident we have no means of ascertaining. The facial paralysis has persisted, and that of the arm, all motions being possible, but weak. Tendon reflexes are marked at the wrist.

The most probable diagnosis is that of concussion, followed by hæmorrhage (of the common variety into the cavity of the arachnoid) in the fissure of Rolando, on the right. That laceration of the cortex also took place, both locally and by contre-coup, is probable, as evidenced by the extreme restlessness. The paralyses

[1] Shown at a meeting of the Surgical Section of the Suffolk District Medical Society, April 1st, 1885.

must, however, have resulted from hæmorrhage. The principal seat of pressure, at present, if the hæmorrhage is cortical, which seems most probable, must be regarded as the lower part of the fissure of Rolando, involving the centres for movements of the opposite arm and side of the face. Whether this was the original seat of the hæmorrhage, and the paralysis of the leg was due merely to extension of pressure, or whether it gradually worked its way down the fissure, involving arm and leg centres at first, and the face only later, we cannot judge, for the patient's statement that his face was not drawn until after the arm and leg were paralyzed, can hardly be relied on.

A CASE OF CYANOSIS.

BY CLARENCE W. SPRING, M.D., OF FITCHBURG.

LOUIS S., a boy, seven months old, of German parentage, was brought by his mother for treatment of a gastro-intestinal disturbance. The peculiar appearance of the child led to my obtaining the following history. The father and mother had always been well, and there were five other children in good health. Nothing bearing on the present condition was found in the family history. The child was born at full term, and nothing was noticed wrong, the mother said, until it was seven days old. The child then began to have attacks of dyspnœa, and "got blue" about the ears, nose, and the extremities. This condition increased in severity, and at times the breathing would stop, and the child appear as though dead. Dyspnœa soon became continuous, though frequently increased by these severe paroxysms. The child could not nurse and was bottle fed.

Examination showed the child to be fairly well nourished. The ears, nose, and portions of the face together with the hands and feet were deeply cyanosed, and the rest of the body, though only to a comparatively slight extent. The dyspnœa was extreme. Auscultation though difficult, showed the lungs to be apparently well filled with air. A loud murmur was heard over the whole front of the chest, but was most distinct over the middle of the sternum. The time could not be definitely determined. Percussion did not show any enlargement of cardiac area.

About a week after the first visit, the child died in one of these paroxysms of dyspnœa, there being no convulsions.

I performed an autopsy twenty hours after death. Rigor mortis was well marked. On removing the sternum the lungs were found well distended and filling the thorax. Subsequent examination of a portion from the upper lobes showed the anterior part in a condition of atelectasis. Nothing further was observed until the heart was removed, which showed some interesting points. The organ was enlarged, of firm consistency, and somewhat pale in color. There was only one opening into the right auricle; both inferior and superior cavæ evidently joining before they entered as a common trunk. There was but one vessel, the aorta, arising from the ventricles, there being no pulmonary artery nor any evidence of a rudimentary vessel in its place. The aorta came off from the base of the ventricles corresponding in position of origin with the inter-ventricular septum. Internal examination showed an open foramen ovale, and an opening also at the base of the septum ventriculorum which would easily admit the end of the finger. This was continuous above, with the opening of the aorta, which thus freely and equally communicated with both ventricles. The left ventricle was hypertrophied, and its walls thickened. The right ventricle was considerably dilated, and the right auriculo-ventricular opening would admit the thumb easily. Cut sections of the walls showed a pale surface but no fatty degeneration was detected. Owing to the fact that I was not able to complete the autopsy the distribution of the vessels to the lungs could not be determined, nor the other organs thoroughly examined.

This pathological condition, though not extremely rare, is of exceptional interest in this case from the junction of both cavæ before entering the auricle; the perfectly symmetrical arrangement of the aorta over both ventricles; and its complete development, while there was the entire absence of any sign, even rudimentary, of a pulmonary vessel arising from the heart.

The admixture of venous and arterial blood was rendered most perfect in this case by the arrangement above given, and in this fact probably lay the cause of the cyanosis, as well as in the fact that the obstruction in the pulmonary circuit made complete decarbonization of the blood impossible. The fact was illustrated in this instance that cyanosis dependent on cardiac malformation may not begin at birth, though in the majority of cases it begins within the first week. It would seem remarkable that the child lived as long as it did, though on looking at the statistics of Aberle, I find that of one hundred and eighty-six cases, only fifty died before the age of seven months. The nature and extent of the malformation obviously determines the completeness of the compensation and the rapidity of death.

Hospital Practice and Clinical Memoranda.

GUN-SHOT WOUND OF THIGH—SECONDARY HÆMORRHAGE — LIGATURE OF FEMORAL ARTERY—GANGRENE—PYÆMIA—EMBOLIC PNEUMONIA—DEATH.

BOSTON CITY HOSPITAL.

SERVICE OF GEORGE W. GAY, M.D., VISITING SURGEON.

REPORTED BY J. B. BRAINERD, M.D., FORMER HOUSE SURGEON.

WILLIAM C., a healthy, robust Scotchman, eighteen years old, was a seaman on board the British Steamer *Colousay*. In the afternoon of February 28th, 1884, he was brought to the City Hospital in a Police ambulance. There had been a row on board the vessel that day, and, in attempting to wrench a loaded revolver from the boatswain, he received the discharge full in the right thigh.

Examination showed a rounded punctate wound on the extensor surface of the thigh, five inches above the inner condyle of the femur. The clothes and skin about the wound were scorched. There was no hæmorrhage, and the dorsalis pedis pulsated. The knee joint was not implicated, but there was a point of tenderness at the upper part of the popliteal space. The wound was washed with a solution of corrosive sublimate, 1 to 1,500, and dressed with corrosive gauze.

The following day the patient was etherized, and the track of the bullet explored by the little finger down to the sheath of the vessels, which was found to

have been opened, but the femoral was felt pulsating. A counter opening was now made over the popliteal space, and the bullet extracted with dressing forceps. It had pierced Hunter's canal without apparent injury to the vessels.

The bullet was of thirty-two calibre, and slightly flattened at the head. Corrosive dressing. For five days he did well. There was no unusual rise of temperature, and the dressings were not disturbed. That night there were two slight hæmorrhages, easily checked by pressure. The following day he was comfortable, but again in the night, he had two very severe secondary hæmorrhages, which necessitated the use of the tourniquet. A few hours later, the femoral artery was tied, by Dr. Gay, at Scarpa's triangle. This did not control the bleeding. The vessel was now sought for in the wound, and raised on a curved aneurism needle. It showed a complete perforation through the wall about the size of a split pea. The artery was ligated above and below this perforation. Leg was wrapped in cotton batting. He passed a comfortable night. His morning temperature was 101° F. At noon he began to have severe rigors, which continued at short intervals for the next two days. They were accompanied by vomiting, rise of temperature, profuse cold sweats, and great prostration. His foot showed some discoloration, which rapidly extended until the whole leg was gangrenous and sloughing. The line of demarcation formed just above the knee.

March 18th. His general condition having improved somewhat, he was given a very little ether, and the leg was rapidly amputated by Transfixion at the level of the original wound. He rallied somewhat after operation, but in a few days began to fail again. The granulations became pale and watery; the flaps were thick and infiltrated; sinuses riddled the stump in all directions, and pus burrowed freely up the thigh. The appetite failed, diarrhœa was constant, and the urine contained about one-fourth per cent. albumen. His mind, however, remained clear through all. On the 9th of April, a double pneumonia set in, undoubtedly of metastatic origin, which he withstood for three days. He died at midnight April 12th.

Autopsy by Dr. F. W. Draper, medical examiner, thirty-six hours after death. The body was much emaciated, and the skin presented a pale sallow hue. The right thigh had been amputated in its lower third; the end of the stump was ulcerated. The left thigh was not swollen or otherwise altered.

Internal Examination. The left pleural cavity contained sixty-six fluid ounces of red, turbid, sero-purulent fluid, with many flakes of firm lymph. The pleura, both costal and pulmonary, was roughened, reddened, and thickened, by recent inflammation. The right pleural cavity contained eight fluid ounces of clear red fluid, without other indications of pleurisy.

The heart was pale, but otherwise was not remarkable.

The upper lobe of the left lung was compressed and carnified; the lower lobe was in a condition of gray hepatization throughout. Upon its inferior surface appeared the base of a recent embolic infarction; it was dark red, slightly raised, and its diameter was five-eighths of an inch. Section of this showed a conical-shaped nodule, occupying a lobule of the lung, three-quarters of an inch in depth, dark red in color, and of firm consistence. The lower lobe of the right lung was œdematous, but not engorged. Upon its posterior and inferior surfaces were counted five infarctions, varying in size at their base from that of a nickel to that of a split pea.

The pulmonary artery and its branches were examined, but nothing abnormal was detected.

The spleen weighed thirteen and a half ounces; it was very soft, and light red in color. No infarctions were found.

The kidneys were moderately enlarged, very pale in color, and of dense consistence. Their capsules were adherent.

The liver, stomach, and intestines were normal.

The right iliac and femoral artery was of normal appearance till the origin of the profunda was reached. At this point began a firm discolorized clot, occupying the entire lumen of the vessel, closely adherent to the intima, conical at its upper end, and completely occluding the artery, from the profunda downward. The point of ligature was found about three inches below the profunda, and the artery was nearly separated by ulceration under the ligature.

Just below the junction of the two common iliac veins, the *right* iliac vein displayed a broken, friable, nearly decolorized thrombus, occupying nearly its entire lumen, and measuring about an inch in length; its inferior end was pointed. Beyond this, as the external iliac and femoral vein was dissected towards the stump, fragments of coagula were found, mingled with laudable creamy pus. The inner coat of the vein was thick and rough.

The *left* common iliac, external iliac, and femoral veins, from the junction of the iliac outward, contained a decolorized clot like that in vein on the right side, except that it was better formed, more firmly adherent to the intima, and with less inflammation of that coat. In the femoral portion of the vein, the clot tapered into a long, dark red, ribbon-like clot, easily detached. There was not complete occlusion of either the right or the left iliac veins, although very little would be required to make the obstruction complete.

The brain was pale, anæmic, and sodden. Nothing wrong was observed about the meninges or sinuses.

SARCOMA OF RIB.

REMOVAL — RECURRENCE — SECOND OPERATION.

ANNIE L., a Stout Irishwoman of forty, came to Hospital September 28th, 1883. She had a tumor under the right breast, of one year's duration. It came on after lifting a heavy tub of water. She felt as if something had given way at the time, and soon after discovered a little nodule, at a point which had always been tender to touch. Its growth has been gradual since; she thinks it has just about doubled its size in the last six months. There has not been much pain.

Examination showed a rounded, smooth-surfaced tumor about the size of an orange, located over the fifth rib, just beneath the breast. It was firmly attached to the ribs below, and to the skin over it.

Operation by Dr. Gay. An incision was made, under ether, through the tumor. It contained about an ounce of thick, glairy fluid. It was easily peeled out from the surrounding tissues, but had to be cut and scraped from the rib.

A specimen of the growth was sent to Dr. Gannett, who reported: "Tumor sent is a fine specimen of a new growth made up of hyaline cartilage. It is, therefore, a 'chondroma,' and started, in all probability, from the cartilage of the rib."

The patient made a rapid, uninterrupted recovery, union by first intention, and was discharged October 17th, 1883.

Eleven months later, she returned, looking very poorly. She had lost some flesh, and was much reduced in strength. Four months after the first operation, the disease returned, and has increased gradually since, attended by more pain. There are two nodules in the old cicatrix, and a third over the ensiform cartilage. Patient was etherized, and the nodule, together with the old cicatrix, removed. The rib was well scraped with a curette. The nodule over the ensiform cartilage was not attached, and was easily removed. The convalescence was tedious, wound healed by granulation, but in six weeks she was able to go home, October 25th, 1884.

A CASE OF EXSTROPHY OF THE BLADDER.

PLASTIC OPERATION — SURGICAL SCARLET FEVER.

Robert M., nine years old, born in Boston, of Irish parents, has been afflicted since birth with a congenital deformity due to failure of complete development of his genito-urinary system. The pubic bones have failed to form the pubic arch for the support of his abdominal organs. There are large double herniæ extending into partially formed inguinal canals. On the perineum is a patch of scrotal integument, but no scrotal sac or tunica vaginalis. The testes can be felt in the inguinal canals just in front of the herniæ. Between these two herniæ is the exposed bladder, its dark red mucous membrane presenting in three folds or lobes, between which are seen the courses and openings of the ureters. At the base of the bladder is a large, well-formed glans penis, without corpora cavernosa or corpus spongiosum. There is no urethra proper, but on either side of the glans penis is a small opening from which the urine dribbles. The folds of the groin and front of the thighs are constantly bathed in the urine, rendered ammoniacal from the constant cystitis which the exposed bladder is subject to.

November 9th, 1883, the patient was operated on, under ether, by Dr. Gay. A longitudinal flap from the umbilical region, and hingeing on its lower border, was brought down like an apron over the exstrophied bladder, the epidermal surface in apposition with the bladder. Two flaps were now taken from the inguinal regions, their pedicles near the perineum. These were brought up over the "apron flap," and united in the median line. Shirt-button sutures were passed from side to side to prevent stretching of the flaps. Drainage tubes were inserted on either side of the glans penis for the discharge of urine.

Patient did well after the operation, but on the third day he had an attack of surgical scarlet fever, which lasted ten days. A fine erythematous rash appeared over his chest and abdomen, which was preceded by vomiting and loss of appetite. The next day the rash had extended on to the shoulders, and down about the wounds and flaps. The wounds were now covered by grayish sloughs, with thickened edges; the rash extended on to the thigh. In four days the slough had cleared off, leaving healthy granulations beneath. The rash also disappeared without further extension, and unattended by desquamation. No sequelæ followed the attack, and the child improved rapidly.

At the end of two weeks, the flaps were generally adherent to each other, the sutures were removed, but the urine continued to leak from the sides, and through sinuses between and under the flaps. There was a phosphatic deposit formed on the under side of the apron flap, which blocked up the drainage openings, but, by careful daily irrigation with warm water, the incrustation was removed. The glans penis was amputated to give a freer outlet for the urine, and the condition of the boy improved. The flaps healed down, leaving a solid abdominal wall, and the urine all escapes through the aperture. He was fitted, by Messrs. Leach & Greene, with a metalic cap, which catches his urine, and conducts it through a rubber tube into a reservoir suspended between his legs.

The peculiar method of making the flaps adopted in this operation is worthy of special attention, from the fact that, owing to the position of the pedicles, one being above, and two below the exposed mucous membrane, as the tissues contracted, the flaps were not displaced, and the interior of the bladder was not exposed, as is apt to be the case, if the pedicles are all situated above or on the sides of the viscus. It is now over two years since the operation was performed, and the boy's condition is entirely satisfactory. He is fat and rosy, and the urinal catches the water, so that he is not a nuisance to himself and to every one about him. There is no cystitis, and no gravel; in short, the urine is normal, and it all escapes from a small opening in the center of the prominent flaps over which rests the urinal.

Pharmaceutical Memoranda.

PHARMACEUTICAL NOTES.

BY B. F. DAVENPORT, M.D.

A SUBSTITUTE FOR IODOFORM.[1]

IODOL is a dark powder, obtained from "Dippel's Animal Oil." It has but little smell, and is soluble in three parts of absolute alcohol, but only in five thousand parts of water. More than two hundred observations on various diseases, have been made with it in the Royal Surgical Institute in Rome. It was used suspended in glycerine, dissolved in alcohol and glycerine, and as an ointment. Chancres were washed with water, dried, and then sprinkled with iodol powder, and covered with silk-protective, the dressing being changed daily. In six days' time, the base of the chancre began to granulate, and the edges to show signs of commencing cicatrization. Under like treatment, open buboes soon improved and healed up. With single indolent ulcers, it proved equally valuable.

DEODORIZATION OF IODOFORM.[2]

Dr. Stout finds the best effect, without altering the therapeutic effect, are to be obtained from coumarin, vanillin, and cinnamic acid. Combined with one-fifth part of its weight of cinnamic acid, it can be used as a fine powder, the acid acting both as a deodorizer and as an antiseptic. One-ninth part of coumarin covers the odor the best. Dr. Stout recommends that mixture of the fine powders be made, and kept in a stoppered bottle one or two months before use.

GERHARDT'S PLUMBUM CAUSTICUM.[3]

Gerhardt, of the Würzburg Syphilitic Clinic, finds a caustic composed of caustic potash and lead oxide,

[1] Lancet, November 28, 1885.
[2] Therapeutic Gazette, August, 1885, page 511.
[3] Lancet, November 1, 1885.

the best means of removing condylomata, as it does not penetrate deeply, yet will destroy a condyloma in a single sitting. It produces a blackish slough where it has been applied.

PARALDEHYDE AS A HYPNOTIC.[4]

Paraldehyde has been used in the Insane Hospital, at Norristown, Pa., in doses from m. fifty to seventy-five, whereby, in the majority of instances, a quiet sleep of two to seven hours, have been induced in ten to fifteen minutes after its absorption. It seems to have no particular action upon either heart or respiration, as in natural sleep, the subject is easily aroused, but soon drops off again when let alone. No convulsive effect or dreamy stimulation of the mind has been observed, its first effect being apparently upon the cerebral hemispheres. The only undesirable feature thus far observed is the disagreeable odor of the breath, which lasts twelve to twenty-four hours. It does not act as an anodyne.

Dr. Hodgson finds it especially useful over chloral in gout, as it helps to maintain the excretion of urine, well charged with its usual solid constituents. It is, however, objectionable in irritable or inflamed condition of the throat or stomach, being liable to aggravate these. It should be well diluted when taken, and the following is a good preparation for it:

℞

Spts. Chloroform	mxv
Paraldehyde	ʒj
Syr. Aurant.	ʒiv
Mucilag. Acaciæ	
" Tragacanth āā q.s. ad.	ʒiij

S. Take the above at bed-time. It may be repeated in an hour or two, if necessary.

It has been found better to repeat a small dose than to give it in single larger doses.

PHENYLMETHYLACETONE.[5]

This compound acetone Messrs. Dujardin-Beaumetz and Bardet have found to possess very intense hypnotic properties. They claim it to be superior in action to chloral, and even to paraldehyde. Given in doses of 0.05 to 0.15 grams, mixed with a little glycerine and enclosed in a gelatine capsule, it determines a profound sleep, and is especially useful in cases of alcoholism. Like paraldehyde, however, it gives a disagreeable odor to the breath, but this may be an advantage over chloral, in that it will prevent its use being concealed. It has not thus far been found to produce intolerance.

THE AVERAGE COMPOSITION OF MILK[6]

As Reported by the Leading Authorities of the World.

The accompanying tabulated statement, compiled by Professor James F. Babcock, Boston, showing the average composition of milk from the reports of the leading authorities of the world, abundantly fortifies the ground taken in relation to the fixing of a standard of quality for milk. It is this standard against which the milk dealers rebel, claiming that it is much higher than any known facts regarding pure and wholesome milk will warrant. This statement completely refutes their persistent assertions, and leaves them absolutely no ground to stand upon.

[4] Philadelphia Medical Times, May 16, 1885. British Medical Journal, July 18, 1885.
[5] Comptes Rendus, ci., 960.
[6] Massachusetts Ploughman, December 19, 1885.

Authority.	Solids.	Fat.	Not Fat.	Ash.
Average proposed by M. Bondet and adopted at Paris, 1857.	13.00	4.00	9.00	70
Average of a number of farms near Paris, Five districts (Adam)	13.10	4.10	9.00	70
Report of the (1885) Paris Municipal Laboratory — Average of all authorities quoted	13.30	4.00	9.30	70
Babcock — Milk Inspector Boston, 1885. 80 samples as delivered by milkmen.	13.30	3.50	9.80	70
Wurtz (leading French authority) Average of large number of analyses.	13.50	4.00	9.50	60
J. Carter Bell. Average of 181 cows.	13.60	3.70	9.90	76
New York Diary Commissioner's Report 1885 — Average of 296 cows	13.73	4.21	9.52	71
New Jersey State Board of Health — Average of 85 diaries.	13.80	4.22	9.58	65
Davenport — Average of 18 Native Cows.	13.82	3.84	9.98	64
Poggiale — Average of 10 analyses.	14.00	4.30	9.70	70
Average of a large number of analyses by Boucharlat.	13.30	4.10	9.20	70
Davenport, Milk Inspector of Boston, 1884, Average of 31 cows (Grade Ayshire)	13.32	3.70	9.62	
Cameron — Average of 100 cows of the Russell Farm (England)	13.40	4.40	9.00	70
Cameron — Average of 42 cows at the Agricultural Institute, Dublin.	13.40	4.00	9.40	70
Davenport — Average of 3 diaries of 56 cows.	13.45	3.79	9.66	66
Sharples — Report of American Academy of Sciences — Average of 19 cows.	14.49	4.83	9.66	66
Average of the above 16 authorities.	13.53	3.91	9.62	68

During the month of November, 100 samples of milk, from as many milkmen in the city of Boston, were analyzed at the Milk Inspector's office. Of these, 10 proved to be adulterated, and were complained of in the Municipal Court.

The average of these samples, including the adulterated samples, was as follows:—

Total Solids	13.01
Fat	3.37
Solids not fat	9.64
Ash	.62

If milk, of which 10 per cent. of the samples was known to be adulterated, averages 13 per cent. of solids, does not this show conclusively that 13 is a fair standard for any honest milkmen, or milk producer?

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. M. BUCKINGHAM, M.D., SECRETARY.

DECEMBER, 28, 1885, the president, DR. F. W. DRAPER in the chair.

DR. A. T. CABOT showed the specimens and read the notes of two cases, the first case being

A TUMOR OF THE BLADDER, COMPLICATED BY THE PRESENCE OF A CALCULUS.

The patient, a woman of seventy-three, first noticed ten months ago, that her water was thick and brownish. Within the last four months she has at times noticed blood in the urine, and during the past three

months she has been suffering more or less from pain during and after micturition. The pain in the bladder has been very severe during the last three weeks, and the frequency of urination has increased until within the last week she has emptied the bladder about once in every hour during the night, and every two hours in the daytime.

She applied at the Massachusetts General Hospital in the middle of this month (December) and Dr. F. B. Harrington, who saw her in the out-patient room, passed a sound and detected a stone in the bladder.

By his advice she entered the hospital for operation December 24th. Dr. Cabot operated as follows: a lithotrite was introduced under ether, and the stone, which measured only about a half inch in diameter, was seized and crushed.

After the first crushing no fragments could be found by the lithotrite and the tube and pump did not succeed in removing any. The urethra was accordingly dilated, the finger was introduced, and a tumor was readily detected projecting from near the site of the right ureter. It was a fungus-like mass with a broad base and was perhaps as large as two English walnuts. The tissue beneath this tumor was hard, and suggested the probability of its carcinomatous character.

A vesico vaginal opening was made close to the neck of the bladder. Through this, nipping forceps and a sharp spoon were introduced, and the growth was removed till it was level with the bladder wall. The vesico vaginal opening gave the great advantage that the sharp spoon could be freely used under the guidance of the finger introduced through the urethra, and the growth could thus be removed much more quickly and intelligently than can be done when but one opening is used. Then the finger has to be withdrawn to make way for the instrument, which gropes for the tumor which the finger has just felt.

In the débris which came away was a fragment of calculus that seemed to be about one-half of a small stone, the other half of which had been crushed off with the lithotrite. Very little hæmorrhage followed the operation, and the patient was relieved of much of the pain in her bladder.

On the following day she complained of pain in the right side of the abdomen, the origin of which was uncertain, whether in the bowels, in the peritoneum, or in the kidney.

In regard to the latter organ it was to be remembered that the position of the tumor close to, if not over the bladder opening of the ureter made it possible that the escape of urine might be obstructed, either by the pressure of the growth itself or in consequence of some interference with the ureter, during the operation. There was, however, no definite sign of such obstruction.

The specimen of the tumor, which was shown, had the ordinary appearance of a tolerably firm papillomatous growth.

A CASE OF MULTIPLE CALCULI IN THE BLADDER.

The second case was that of a man aged fifty, with the following history: —

In 1876 he first began to notice the occasional passage of small stones through the urethra. He was operated upon at that time in Hartford, where he was then living. The stones were crushed at many sittings, the débris passing by the natural efforts of urination. He was then free from trouble until 1883, when he again began to pass small stones, and he was operated upon by Dr. Caswell, of Providence, who at one sitting with litholapaxy apparatus, removed a number of calculi, some of which were so large as to require crushing. His troubles returned in 1884, and Dr. Caswell again operated and again removed a number of calculi.

He was now free from trouble until about two months ago when he again began to pass small calculi, at first about the size of canary seed and gradually increasing until within the last ten days he has passed three calculi, each of the size of a lemon seed.

When seen, December 25th, he was suffering considerable discomfort from obstruction to urination. He has never had any sharp pain and has never seen any blood in the urine, which is somewhat cloudy.

December 27th. He was etherized and a curved tube, No. 31, French, passed readily into the bladder. When the pump was applied there was much clicking, but nothing passed. The tube presently clogged, was withdrawn, and in the eye was found a biscuit-shaped calculus measuring exactly half an inch in diameter and weighing eleven and a half grains.

The lithotrite was introduced and another somewhat larger calculus was crushed and pumped out. The bladder was then found to be clear.

The operation was followed by no reaction. The calculi, which were shown, were dark reddish brown in color and apparently composed mainly of uric acid. They were oval and biscuit-shaped, and of very regular forms.

DR. C. B. PORTER showed the specimens and reported the history of four cases as follows: —

URETHRAL CALCULUS.

The patient entered the hospital service of Dr. J. Mason Warren in 1865, at the age of four and a half, his parents having noticed frequent micturition for eighteen months, twelve times in twenty-four hours. There were increasing difficulty and pain in the passage of urine, which had contained blood for three months. There was no steady stream but the urine dripped. He drew continually upon the end of the penis, which was large and inflamed. A stone was detected by sounding under ether, and the urethra was found to be unusually capacious. The stone was removed by Dr. Warren through a perineal incision; a lateral incision being made into the prostate, and a stone the size of a filbert was removed by stone forceps.

Twenty years later he returned with a stone in a pocket in the membranous, or the anterior part of the prostatic urethra, and this was removed by Dr. Porter last month.

CARIES OF TARSUS, AMPUTATION.

The patient, fifteen years old, had sprained his ankle two years before, and entered the Massachusetts General Hospital on crutches, in the summer, with a sinus just below and to the front of the inner malleolus of the left foot. From this there was a discharge. Dr. M. H. Richardson enlarged the opening to admit a finger, removed a small fragment with dressing forceps and curetted the wound. After this he went home but returned September 2d, with the sinus still discharging. The foot was placed upon a posterior wire splint. December 17th, the sinus was discharg-

ing freely. The foot had not been used since September 2d, and Dr. Porter amputated. Besides the bones of the tarsus, a section through the tibia showed that to be diseased.

EXCISION OF KNEE.

L. B., aged five years, first entered hospital, September 29th, 1884, with a history of having had trouble with the knee for one year. He was discharged October 27th, his knee having, during this time, been straightened, under ether, and a dextrine and plaster bandage applied.

Re-entered hospital, May 29th, 1885, to have plaster bandage removed. The knee was found enlarged, bent, and could not be straightened. It was again straightened, under ether, and he went home July 4th, wearing a plaster bandage. November 27th, the plaster bandage was removed, and the knee was found to be swollen, painful, and considerably inflamed. He was unable to walk, and the temperature was slightly raised. December 12th, Dr. Porter straightened the knee and put it on a wire splint. On the 19th, he excised the joint. The cartilages of the joint were disorganized, and the patella was united to the femur.

PILO-NIDAL SINUS.

Two years ago, a small swelling appeared over the sacrum, and then disappeared. Two months ago, a hard lump, as large as an egg, appeared on the left buttock, and gradually increased. It was sore, and was poulticed, causing an abundant discharge. On entering the hospital, there was a well-defined outline of induration over the sacrum, extending upon the left buttock, red, hot, and painful. An incision over the sacrum disclosed a cavity filled with hair, and surrounded by disorganized tissue.

DR. F. C. SHATTUCK read a paper on

LARYNGEAL SPASM IN ADULTS, WITH REPORTS OF TWO CASES.[1]

DR. F. I. KNIGHT said that spasm of the glottis in the healthy adult larynx, was extremely rare. Most cases, even of those reported healthy, would show some local disease. Hyperæsthesia, and great consequent irritability were found in cases where the pathological changes seemed slight. This hyperæsthesia was sometimes seen in the same class of patients, higher in the throat, in those distressing cases of dysphagia from hyperæsthetic inflammation of the pharynx, where the lesions seemed so slight. The prognosis, so far as escape from death was concerned, was certainly good in any case where there was not some serious interference with the pneumogastric or recurrent nerve, reported fatal cases being very rare.

In regard to preventive treatment, any constitutional indications should be met, and morbid conditions of the throat and nose treated. In these cases, not uncommon, where the patient was having a recurrence of spasm every night, during a mild attack of acute laryngeal catarrh, the spasm could usually be prevented by giving a small dose of morphia at bedtime. Sometimes belladonna would answer the purpose, but not so certainly. In many cases, the spasm was developed only by the forced expirations of severe cough, and if [illegible] stinging syrup or candy be taken into the mouth at once, when the patient woke up coughing, it could often be prevented. This kind was often seen in old people, especially old ladies. In those cases where the attack occurred at long intervals, without warning, it was difficult to make efficient provision. If the spasm was prolonged, the subcutaneous injection of morphia, or inhalation of a few drops of chloroform on hot water, should be employed. Nothing in Dr. Knight's experience equalled morphia in allaying the tendency to laryngeal spasm.

DR. S. W. LANGMAID said that he must speak of other apparent causes, somewhat removed from laryngitis. Cases of frightful spasm occur, at times, on applying forceps to a growth, or nitrate of silver to the larynx, and such are certainly largely reflex. Cases like Dr. Shattuck's have come under his notice a number of times. A man may go to bed well and with no cough, may awake, and stagger to a window for breath in great suffering, and may finally get relief. In the speaker's own experience, some such cases have almost no laryngitis, and he believes that the spasm is generally reflex. There is often a pendant uvula to irritate the pharynx, and the patients are almost all gouty. There is some functional trouble with the digestive organs. Cases of laryngeal spasm dependent upon indigestion, are not uncommon in children who have passed the second dentition. He has seen several cases in subjects from eight to eleven years, and in them, has never failed to find the cause in the abdomen. There is still another cause in occlusion of the nostril. In proof of this, the speaker reported the case of a man who was often a sufferer, but who was cured by the removal of an hypertrophied turbinated bone, and cauterization of the base.

DR. F. G. MORRILL said that he had seen two cases of spasm of the larynx, pure and simple. Both patients were women. In the first case, the dyspnœa was promptly relieved by a hyperdermic injection of morphia; but in half an hour there was a return of the trouble and an emetic was given, which proved effective and the respiration afterward remained normal. In the other case the dyspnœa was intense and lasted over five hours. Steam and various other remedies failed to relieve the distress, and tracheotomy seemed imperatively demanded. Before the arrival, however, of the surgeon who was summoned to perform the operation, the spasm relaxed, and the next day no trace of any throat trouble could be detected.

DR. J. J. PUTNAM thought that it is likely there are other muscles of respiration, beside those of the glottis that are concerned at the same time, and recalled the observations of Dr. T. B. Curtis on hydrophobia, as reinforcing the reflex theory of laryngeal spasm.

He mentioned a case of spasm occurring at intervals for a long time, in which lead had been found in the urine. Lead is found, however, so often when it is sought for in nervous disease, that the speaker thought either that our methods of analysis must be faulty, or that the presence of lead without symptoms cannot be extremely rare.

DR. KNIGHT said that he did not deny that the immediate cause was sometimes reflex from indigestion, etc., but said that the irritation was reflected to the larynx because it was diseased, and thereby sensitive, just as we see diseased membrane in the nose swell up from reflex action, responding in a way it could not do if healthy. We see the same thing in bronchial asthma, where we in most cases have a hyperæmia about some old lesion, excited perhaps, by reflex action from the digestive, sexual, or other organs. Local

[1] See page 1 in this number of the Journal.

treatment addressed to the diminution of the hyperæsthetic condition of the larynx would often stop the tendency to spasm at once.

With reference to the spasm produced by introducing instruments and remedies into the larynx, Dr. Knight said that, although well known to laryngologists, the proper method of making applications, when there was danger of spasm, could not be stated too often. The patient should take a deep inspiration and hold his breath while the brush or other instrument was introduced, so that the first respiratory act afterward should be one of expiration. It was better, also, that the next inspiration should be through the nose, and not through the mouth.

DR. T. M. ROTCH remarked that we can often have light thrown on a question of this kind, namely, as to whether these spasmodic attacks in the adult larynx have their origin in the larynx itself or elsewhere, by referring to analogous cases among a class where the disease is especially frequent. As Dr. Knight has observed, and as is generally well-known, a very slight irritation in the larynx, and especially in the child, can produce this spasm, and we must, therefore, eliminate, in our diagnosis, even a suspicion of laryngeal irritation. On the other hand, a neurosis of the larynx from reflex irritation elsewhere is not uncommon where the nervous system is in an especially sensitive condition, both from the age of the patient, and from the combination of bad influences which are brought to bear upon the nervous centres of children among the poorer classes.

Dr. Rotch also said that it so happened that he had for some time had unusual opportunities for studying quite a number of these cases in his clinics at the Boston Dispensary and the City Hospital, where the throat department was directly connected with his own, and where children with this affection in its various phases were examined immediately by the laryngologist in charge, with the result that often nothing abnormal whatever could be detected in the larynx.

Dr. Rotch then mentioned one case of especial interest bearing on this point. A boy eight years old, has for some weeks apparently had spasm of the epiglottis, causing a sound like that of hiccough, recurring every fifteen or twenty minutes. The mother of the child has been so much worried by these attacks, that she has brought the child regularly to both clinics, and the throat has repeatedly been carefully examined. On one day only, was a little redness noticed in the larynx, and on that day the attacks were lessened in frequency, while later, when the spasm was increased in frequency, the larynx appeared perfectly normal. The sound made by the boy during the spasm has lately lost its similarity to hiccough, and is now of a slight gasping or choking character.

The spasm is gradually growing less frequent and less severe as the child's general health improves. No cause, digestive or otherwise, has been discovered beyond a general innervation of the nervous system, resulting in a hypersensitive condition represented by reflex laryngeal spasm.

DR. SHATTUCK in closing the discussion, asked Dr. Knight how often, in this climate, he sees an absolutely normal larynx. In view of the rarity of a perfectly healthy laryngeal mucous membrane, and the small proportion of cases in which one meets with laryngeal spasm, something aside from the catarrh must be the important factor in the production of the spasm. Dr. Morrill's case is a good instance of the hysterical spasm of the glottis. In case I, the anatomical changes are very slight, while the aphasia and spasm are severe, and indicate probably a very excitable and unstable condition of the nervous centres. In case II, the severe cold undoubtedly was a factor, but the gout was a more important one. The patient never had a spasm until after he had his first gouty attack, and stated distinctly that there was usually no connection, which he could detect, between his spasms and any catarrhal condition.

The loss of consciousness does not seem to be an indispensable element in the cases of laryngeal vertigo, so called. In regard to one of Charcot's cases, there is a discrepancy between two of the published reports with reference to this point, and in McBride's case there was no unconsciousness.

MYXŒDEMA.

Dr. J. J. PUTNAM reported the case of a lady whose symptoms have lasted five years. They are a puffy face and head, with a dry, rough skin, pallor, feeble pulse of sixty, subnormal temperature, constipation, and mental lethargy.

POISONING BY THREE DRACHMS OF TINCTURE OF BELLADONNA.

DR. J. B. AYER was called to see a girl twelve and a half years old, who had taken three drachms of tincture of belladonna by mistake. It was given at 9.30 P. M., and the mistake was discovered at 10.25. Although the patient seemed comfortable, feeling only dryness of the throat, her mother kept vomiting her with salt water and ipecac for twenty minutes.

At 11, Dr Ayer found the pupils widely dilated, not reacting to light. There was dryness of the fauces; the skin was dry and red; the pulse 135, very feeble and irregular.

Passing an œsophageal tube, he filled the stomach and washed it out by siphoning, and then gave an enema of a gill of strong coffee.

By this time the cerebral symptoms had appeared. The patient was in a state of mild delirium. The eyes could not accommodate; she could not tell whether objects were near or distant, and it seemed to her that there was a white sheet dancing up and down in front of her. Nitrate of pilocarpine ($\frac{1}{4}$ grain subcutaneously), had a decided effect in diminishing the dryness of the throat and skin. Strong coffee was given at frequent intervals, but was not retained.

The cerebral symptoms were less marked at the end of a couple of hours; the pulse was less rapid, 120, and much stronger, and she wished to sleep, but was, however, kept awake without much difficulty. At 7 A.M., the pupils were still enlarged, and did not react to light. Three days later they were still dilated, but reacted readily.

Recovering from the effects of the poison, she found herself cured of the nausea and diarrhœa for which it had, by mistake, been taken. The over-dose had no effect whatever upon a habit of nocturnal incontinence of urine.

This tincture of belladonna was prepared two years ago, (U. S. P. 1870), and the amount taken contained twenty-two grains of belladonna leaf. There is a very great difference in the price and strength of belladonna leaves, and it is impossible to say whether the amount taken would have yielded one-

twentieth or one-tenth of a grain of atropia. The therapeutic and toxic character of preparations of belladonna do not depend *entirely* upon the amount of atropia by analysis from them. Most of the belladonna was *probably* absorbed in the course of fifty-five minutes, as the stomach was nearly empty at the time.

SUFFOLK DISTRICT MEDICAL SOCIETY. SURGICAL SECTION.

S. J. MIXTER, SECRETARY.

APRIL 1st, 1885. DR. C. B. PORTER, presiding.

DR. G. L. WALTON showed

A CASE OF CONCUSSION FOLLOWED BY PARALYSES POINTING TO HÆMORRHAGE INTO THE FISSURE OF ROLANDO.[1]

He also took the opportunity for demonstrating the use of Broca's Flexible Square, and the measurements were shown, on the skull, by which the course of Rolando's Fissure can be marked out with sufficient accuracy to determine the point for operation, when advisable.

IN the remarks on the communication, Dr. H. P. BOWDITCH stated that he thought some authorities, EXNO, for example, did not believe that the centres of movement of the arm and leg were so clearly and sharply defined as Ferrier would make one believe, and that they certainly overlapped each other, if nothing more. He called attention to the experiments of Göltz, of washing away portions of the brain with a stream of water when it was still found that the animal, notably dogs, were able to perform the ordinary reflex movements of walking, but the more complicated ones, as holding a bone in their paws, they were unable to accomplish.

DR. PUTNAM asked whether the depth of the lesion was determinable? He cited a case where the symptoms pointed to the brachial plexus as the seat of the injury, but where two days later an attack supervened which showed conclusively the central origin of the paralysis.

In answer to Dr. Bullard's question regarding the diagnosis of the seat of hæmorrhage as being cortical rather than into the internal capsule, Dr. Walton said that the nature of the injury was an important factor in the diagnosis. The symptoms might certainly be the same in case of hæmorrhage into the internal capsule, but such lesion, he considered, rarely followed trauma, excepting where previous disease of the arteries favored it, whereas it was not at all unlikely that a cortical hæmorrhage under the seat of injury should follow such a blow as the patient received.

In answer to Dr. Bowditch, Dr. Walton said that pathological observations are of necessity too inaccurate to establish exact boundaries, but they corroborate Ferrier's experiments sufficiently to justify us in assuming that the region about the fissure of Rolando is devoted to motion, and in operating under the guidance of this assumption. The fact may further be regarded as established, that the upper part of this region presides over the movements of the opposite arm and leg, the middle part over movements of the opposite arm. and the lower part over those of the opposite side of the face and tongue.

[1] See page 3 of the Journal.

DR. A. T. CABOT reported a case of

AMPUTATION AT THE SHOULDER JOINT FOR SARCOMA OF THE ARM.

The patient is a girl of twenty, tolerably well nourished, though of rather sallow complexion. She entered the Massachusetts General Hospital, February 16th, 1885, with the following history:— Between two and three years ago, she first discovered a small lump upon the inner side of the right forearm. Fifteen months ago, having reached the size of a hen's egg, it was removed. Eleven weeks later another small tumor appeared beneath the skin upon the inner side of the same arm, just above the elbow. When first noticed it was freely movable beneath the skin; it soon, however, became fixed and increased rapidly in size, but was never accompanied by very severe pain. Some weeks before she entered the Hospital a prominent lobe of the tumor ulcerated, and from this there were one or two hæmorrhages of moderate amount. The tumor at the time of admission, was about the size of a child's head, composed of several large lobes which surrounded the arm, and were at one point ulcerated and sloughing.

While awaiting operation in the hospital there was another slight hæmorrhage, which was easily checked by direct pressure. The arm was amputated on February 21st.

To avoid any loss of blood, which might have been serious in her anæmic condition, the arm was raised to empty it by gravitation, and a rubber tube was applied tightly about the shoulder. The limb was then removed by a circular amputation about two inches below the joint, and after securing the vessels the head of the bone was easily shelled out.

This method was adopted for two reasons; first, in order that the upper end of the humerus might afford the turniquet a sure hold until the vessels were secured, and secondly to at once get rid of the heavy sloughing arm which would have been difficult to manipulate during disarticulation.

To test the efficacy of the rubber tube turniquet about the shoulder, I reapplied it through the axilla and over the spine of the scapula and acromial end of the clavicle while disarticulating, and found that after removal of the head of the bone it still thoroughly controlled the circulation. Whether it would remain in place on a thick muscular shoulder or could be dislodged by movements of the patient, I could not judge.

The after history of this case has been uninterruptedly good. Under a dry absorbent antiseptic dressing the wound quickly healed by first intention without fever or disturbance of any kind.

DR. O. K. NEWELL read a translation from Mickalicz, on the value of the transfusion of blood and infusion of salt solution in acute anæmia.

DR. BOWDITCH said that it might be of greater use than the writer seemed to think, in case of poisoning by coal gas, in helping eliminate the poison from the system.

DR. BUCK spoke of the difficulty of finding the saphenous vein in two cases where he had seen this operation attempted. It was urged by Cohnheim that the central end of the artery was the best place from which to make the infusion, as the risk of overloading the heart was very much less, as well as for the accidental admixture of a large bubble of air.

THE NEW YORK ACADEMY OF MEDICINE. SECTION ON SURGERY.

STATED meeting, December 14th, 1885.

THE INDICATIONS FOR LAPAROTOMY IN PENETRATING STAB AND SHOT WOUNDS OF THE ABDOMEN.

After a brief introduction by the chairman, Dr. Stephen Smith, the discussion was opened by Dr. Joseph D. Bryant, who said that he who unconditionally asserted that any operation or method of procedure should be resorted to in all cases, even though it were a measure accepted by the profession generally, took a position that required, in justice to the profession and the patient, that all operators should be competent and well equipped for its performance. Especially was conservatism necessary in the advocacy of an operation, the propriety of which, as yet, was spoken of by many with doubt commingled with dread. But a short time had elapsed since the late Prof. James R. Wood had in this hall opposed laparotomy in the cases under consideration in what were generally recognized at that time as sound practical principles; and though marked advancement in all surgical procedures had taken place since then, a sufficient period had not yet elapsed, nor were the members of the profession well enough informed on the details of the entire operation for any one to proclaim boldly that laparotomy should be performed in all cases. Few indeed were the hospitals in the city of New York which could immediately after the accident offer the recognized theoretical, and many of the practical facilities necessary to despatch and cleanliness in operating; not to mention other circumstances bearing on the success of the operation. How much less properly prepared for the performance of laparotomy would the unfortunate patient find the members composing the great mass of the profession?

There were three questions which he thought it well to consider, namely: 1. Should laparotomy be performed in any case? 2. Should it be performed in all cases? 3. When contemplated, should it be done immediately after the accident? In regard to the first, he went on to say that it could not be denied that laparotomy in connection with various abdominal growths was a fully established operation, and the results attending the invasion of the abdominal cavity by numerous operators both at home and abroad plainly attested the expediency of the measure in connection with such growths. There was no proof, so far as he knew, that the peritoneum of the male was not as tolerant of manipulations as that of the female. The excellent success of Billroth and many others, so far as immediate results were concerned, from operations on the stomach, pylorus, gall-bladder, spleen, kidneys, etc., of both sexes, fully showed that intolerence of the peritoneum to manipulations could not be considered a rational objection to the operation of laparotomy for penetrating abdominal wounds. These operations showed also that neither could the length of time required nor the extent of raw surfaces resulting in this variety of laparotomy be urged as objections to the procedure.

Among the practical elements which at the present time entered into a case of laparotomy for penetrating wounds, but which did not exist, or at all events, exert an equal force, in laparotomy for other common causes might be mentioned the following:

(1) A doubt whether the abdominal viscera were injured. This doubt could exert but little influence, since the signs and symptoms of visceral penetration were as pronounced as those relating to other conditions in which laparotomy was deemed advisable. Moreover, an exploratory laparotomy would enable the operator to settle the question of penetration.

(2) Existing shock. This element was almost unlimited to those cases of laparotomy which were to be done for penetrating wounds. The shock was due either to loss of blood, to injury done the parts, or to both combined. He believed it to be an established fact that when severe shock followed immediately after the injury, it was due in the great majority of cases to loss of blood; and if this were the case, the indication was to check the hæmorrhage at once. An exploratory laparotomy would decide this question.

(3) Unfavorable surroundings of the patient. This element, like the second, was limited to laparotomies for penetrating wounds. It included the surroundings of the patient at the time of the injury, the removal to his home or to a hospital, and the absence of proper preparations for operating in accordance with the best recognized methods of procedure in such cases. It would be impossible to entirely avoid these contingencies; but their dangers could be greatly lessened by caution in moving the patient, by taking him to a suitable hospital, instead of his own home, and by increased familiarity on the part of the profession with all the details pertaining to the operation of laparotomy under the circumstances.

(4) Unskilled operators. By this he said he meant that the surgeon in charge of the case might not have had his attention forcibly drawn to the details of the operation which was recognized as having an important bearing on the prognosis of such cases. More particularly would he find himself in this position if he had previously looked on the operation with a disfavor bred of prejudice, instead of the result of patient toil and observation. This element could be entirely overcome if the members of the profession would but devote an ordinary amount of attention to the matter.

(5) Greater exposure of the abdominal cavity and its contents. The great care necessary in order to find out and to remove from the abdominal cavity all the blood and estravasated intestinal contents, to check hæmorrhage and also to detect all the points of injury, required that the intestines and the omentum should be thoroughly examined by a preconceived method, rather than by the rough handling associated with illogical haste.

(6) Existence of hæmorrhage. In visceral perforation intra-abdominal hæmorrhage was necessarily a constant feature. The vessels of the omentum and of the intestines, especially the former, bled with a pertinacity which was unusual in those of other portions of the body, owing, it was thought, to the walls of the vessels being loosely supported by the surrounding tissues, also to the fact that they seemed to possess in a much less degree the inherent attributes which ordinarily enabled the natural forces of a vessel to check hæmorrhage, namely: contraction and retraction. The suspicion of the existence of much intra-abdominal hæmorrhage was enough to indicate the making, at least, of an exploratory incision, by which means its existence could be positively diagnosticated; when, if necessary, the incision could be extended, bleeding points checked, and blood-clots removed.

(7) Extravasation of intestinal contents. This was

a part of the history of penetrating abdominal wounds, and constituted an occurrence which was most to be dreaded by the surgeon.

DR. GROSS asserted that no case had ever been known to recover in which fœcal matter existed in the abdominal cavity; therefore, fœcal extravasation was the strongest of the indications for laparotomy — offering, as it did, the only means of recovery.

(8) The greater difficulty of cleansing the abdominal cavity. If blood and intestinal contents had been generally diffused, the cleansing of the abdominal cavity was more tedious and difficult, and also of more importance than in laparotomy for other causes, but the thorough performance of this duty, at least so far as the intestinal contents were concerned, appeared to be the only means of saving the patient's life. As to blood, no one could tell the amount that might remain, and yet recovery occur.

In Dr. Bryant's opinion, laparotomy was a justifiable operation, but it was not to be attempted, even in so-called favorable cases, unless the operator could avail himself of many of the recognized means of procedure necessary to control the shock of the operation, and was sufficiently familiar with its steps to accomplish the work with accuracy and despatch.

Leaving the second interrogatory, should laparotomy be performed in all cases, to be discussed by others, he passed on to the third. When contemplated, should laparotomy be done immediately after the accident? Assuming all things to be equal, he thought that it should be done at once, or, at least, as soon as the necessary preparations required to insure a fair prospect of success could be made. There should first be an exploratory incision, followed, if the condition of affairs warranted it, by the actual laparotomy. In the former, the incision was made in the median line, so situated and of sufficient length to expose to view the probable seat of the internal injury. The surgeon could then, in the great majority of instances, determine if penetration of a viscus had taken place, and if hæmorrhage or intestinal extravasation existed. If the patient was in danger from immediate hæmorrhage, the blood in the abdominal cavity could be seen through the incision.

Does the exploratory incision expose the patient to unusual danger? The large number of successful laparotomies, both in this country and abroad, seemed to him to argue this question in the negative, and if this was true, he said, all that was possible was gained, while but little could be lost from the exploratory incision.

DR. J. W. WRIGHT said that he was not prepared to take the ground that all cases of penetrating wounds of the abdomen were to be treated by laparotomy. As regards gunshot wounds, it would be found that the large or small size of the missile, as well as the velocity of the latter, made a great difference in the severity of the injury. For example, he did not believe that the twenty-two calibre bullet, or the ordinary bullet of about twenty grains' weight, behind which there was but about five grains of powder, was calculated to do much mischief. As a rule, such a bullet lodged in the abdominal walls, but even if it did penetrate the cavity, and pass through a knuckle of intestine, the opening made by it was so small that an erosion of the mucous membrane was caused, which would be sufficient to prevent the extravasation of fœcal matter, while the hæmorrhage would be but trifling. If, then, he were called to such a case, and there were no symptoms specially calling for laparotomy, he certainly would not perform the operation. But if, on the other hand, he was called to a case in which the injury had been inflicted by what is known as an "express charge" — a forty calibre bullet, weighing two hundred and seventy grains, with one hundred and ten grains of powder behind it — he would expect to find abundant indications for its performance. Even in the absence of symptoms, he would consider the case one for immediate laparotomy, for he would feel very sure that if such a missile got into the abdominal cavity at all, it would cut and tear everything that came in its way.

In stab wounds, he said he would not perform laparotomy in many cases, even if he knew that the wound was a penetrating one, or even if the omentum was protruding. In this connection he mentioned the case of a drunken sailor, who stabbed himself in the abdomen, and when a portion of the omentum protruded through the wound, caught hold of it, and dragged it still further out. Yet the man recovered perfectly, and that without being laid up for an hour. On the very day that he received the injury, he went to sea, and in the course of a week, the protruding omentum sloughed off, after which he had no further trouble. He also mentioned another somewhat similar case at Bellevue Hospital.

As to the matter of diagnosis, it was difficult to say in every case, whether the peritoneum was wounded or not. In many instances, there was well-marked shock, simply from the force of the blow, particularly if this was in the neighborhood of the epigastrium. If the shock was extreme and protracted, however, it was probable that the abdominal cavity had been penetrated. In the second place, the occurrence of meteorism indicated damage to the viscua. Thirdly, the protrusion of the gut through the wound proved nothing as to whether the gut itself had been injured or not. This was shown, however, by the escape of the intestinal contents. He thought, therefore, that we should be careful how we state that laparotomy is called for in every case.

DR. R. F. WEIR said that he did not feel in a position to say that penetrating stab wounds of the abdomen were necessarily accompanied with injury of the intestines or abdominal viscua. Unless, in any case, there were symptoms indicating the presence of such complications, the surgeon had only to watch the patient carefully. In regard to gunshot wounds, there was a different state of affairs, and for his own part, he had a somewhat greater respect for the capacity for injury of the small pistol ball than Dr. Wright felt, since he had known them to penetrate the abdominal cavity, and do a considerable amount of mischief. As a rule, one of the indications was to explore the wound under any circumstances, and he thought that statistics clearly proved that every gunshot wound of the abdomen, at short range, should be carefully examined, in order to see whether or not it penetrated the cavity.

The question of hæmorrhage always came up in connection with the existence of shock, and it was often impossible to determine off hand in any instance, whether the patient was suffering from the shock of the injury or of extravasation, or from the shock of hæmorrhage. He had learned from the experience of two sad cases that delay might prove fatal, (although if the shock was not due to hæmorrhage, the chances

of success with laparotomy would be greater after it had passed off), and, therefore, he agreed with Dr. Bryant that it was best to make a small exploratory incision in every case where it was impossible to decide whether the shock was due to hæmorrhage or not. He did not agree with Dr. Bryant, however, that the small opening would show whether there was much bleeding or not. The blood naturally gravitated toward the lower part of the abdominal cavity, and, therefore, it was often necessary to pass in a sponge on a stick in order to find out the existence of hæmorrhage. Dr. Wright had stated that a small bullet might pass through the intestine without causing extravasation of fæces, or otherwise doing harm, but the very reasons which would make such a wound of less severity, would also be the ones why a laparotomy would be of less severity under the circumstances. For himself, he would proceed to perform laparotomy if the exploratory incision showed that the intestines were wounded, for even if there was no extravasation of fæces, there would almost certainly be an escape of gas into the peritoneal cavity.

DR. A. C. POST thought that in regard to incised wounds, it made a great difference in what part of the abdomen the stab was inflicted. If in the region of the stomach and liver, there was less danger of hæmorrhage than if the wound was situated in the region of the intestines. Again, if it was still lower down, it might be below the peritoneum altogether, especially if the bladder was distended at the time. In this connection, he related a case in which a stab wound of the lower part of the abdomen penetrated the bladder, and was followed by a gush of urine, and said that in a case of this kind, the safety of the patient, no doubt, was due to the large size of the wound, which gave free drainage, and prevented the retention of the urine in the tissues. A large and direct opening would also have much the same effect as regards extravasated fæces. When there was fæcal extravasation, however, he thought that laparotomy should always be performed and the abdominal cavity thoroughly cleansed.

DR. W. M. POLK said that he had had no experience with laparotomy for penetrating wounds, but so far as danger was concerned, the results obtained, both at home and abroad, showed that the exploratory incision was quite a simple affair, comparatively free from danger. It seemed to him, however, that a simple incision, such as those who confined their attention to pelvic surgery frequently had to make, would scarcely be sufficient in the class of cases now under discussion. The gynæcologist generally knows about what condition of things he might expect to find, and if a large tumor was present, he swept his hand around it, but did not mix his hands much with the intestines. Even in the case of the most extensive growths, the intestines were very little disturbed. This, then, was the point: If a limited exploration were made, there was comparatively little risk, but if it was necessary to introduce the hand, and feel around among the intestines, a great deal was added to the risk. Within the last two or three years, he had seen this strikingly illustrated in this city, in Tait's and other similar operations. Formerly, when there were marked adhesions, the intestines were freely handled, and sometimes laid upon the abdomen, and the result was that a fatal result frequently followed. Within the last eighteen months, however, in this same class of cases, the results had been very much more favorable, and this was owing to a different method of procedure. A much smaller incision was now used, and the adhesions were quickly torn away by the hands, without regard to hæmorrhage, because the latter soon ceased, and a drainage tube was introduced to remove the blood. Instead of the operation covering an hour or an hour and a half, as before, it now took only twenty or twenty-five minutes. The whole question of danger, therefore, as it seemed to him, would depend on the amount of handling of the viscera required in any given case. So far as the simple opening of the peritoneum was concerned, he thought it was as safe as sewing up the cervix uteri, and attended with really less danger than the opening of the pleural cavity.

DR. W. G. WYLIE thought that the principal cause of shock in the cases under consideration was hæmorrhage. The dangers in Tait's and other similar operations, to which Dr. Polk had referred, he believed to have been due, not so much to handling of the intestines, as to exposure to septic influences from the atmosphere, sponges, etc. According to his observation, the large majority of the deaths were due to septic infection. He would have no hesitation in opening the peritoneum in any case where the patient's life was in question. There was very little danger of increasing shock thereby, and if the shock was very marked, there was every reason to believe that severe hæmorrhage was taking place, so that the prompt performance of laparotomy was urgently demanded under the circumstances. After performing operations in the abdominal cavity, he not infrequently washed out the latter with a solution of bichloride of mercury, one to ten thousand, following this with the injection of simple hot water.

NEW YORK NEUROLOGICAL SOCIETY.

STATED meeting, December 1, 1885. The President, W. R. BIRDSALL, M.D., in the chair.

DR. WILLIAM A. HAMMOND read a paper on

UNILATERAL HALLUCINATIONS.

ABSTRACT.

The fact that hallucinations of sight and of hearing might be unilateral, that is, discerned by one visual or auditory centre only, had long been known, though it had not even at this day attracted the degree of attention which Dr. Hammond thought it deserved. Several authors had considered the matter from a more or less philosophical standpoint, and had brought forward interesting cases in support of their views. The first reference to the fact that hallucinations might be one-sided, which had come under his notice, was made by Calmet, it being a case of hallucination coming from the left ear. Baillarger cited two cases of hallucinations of hearing occurring in but one ear. Other writers who had contributed to the subject, cited by Dr. Hammond, were Schroeder van der Kolk, Alexander Robertson, E. Regis, Dumontpallier. Erroneous impressions of different character, occurring on either side, had received attention at the Medical Congress at Rouen, in 1883.

Dr. Hammond then gave the histories of several cases of unilateral hallucinations which had come under his own observation. The first was that of a gentleman in good general health, who contracted the illusion that the ticking of a clock on the mantle-piece

consisted of articulate words; after a time it sounded like human speech, and appeared to give commands, such as not to eat of soup, not to drink wine, etc. It was learned that these illusions came only through the left ear, and never through the right; but hearing in other respects was not the least impaired in either ear. The patient did not allow himself to be deceived into the idea of accepting these commands as realities, yet he was influenced by them in his actions. This case and the one next mentioned were referred to in Dr. Hammond's work on insanity.

Case II. A young lady, of good mental development, but of delicate physical organization, was for several months almost constantly troubled with apparitions of various kinds of faces. A few weeks before they first appeared she had looked at engravings of Greek and Roman masks, which had made a strong impression upon her. If she closed either eye, about half of the faces would disappear, and if she closed both eyes, all would disappear, but would return again in a little while, although less distinctly. By imitating the experiment of Sir David Brewster, pressing on the outside of the globe of either eye so as to produce temporary strabismus, the patient could make any face appear double which had been visible for several minutes. There was no impairment of vision of any other kind, and no abnormal ophthalmoscopical appearances. The peculiar features of this case were that the hallucinating images were divided between the two eyes, part being seen in the one and part in the other, showing, therefore, the distinctness and divisibility of the action of the two visual centres, and the fact that the stimulus of a strong light was necessary in order that they should be developed.

Case III. A young man received a blow just above the left ear. A few weeks subsequently, while engaged as a salesman, he saw a large black cat sitting on the floor immediately before him. He had no doubt of the reality of the occurrence until he walked toward the animal, when it receded as far as it was when he first saw it. After this the cat seemed to follow him wherever he went, but his sense of touch was never deceived. The image was larger and most distinct in the evening, and during the paroxysms of pain at the seat of the injury on the head, which returned several times a day; he discovered, on shutting the eyes alternately, that the vision occurred only on the side corresponding to the injury. There were no abnormal ophthalmoscopical appearances, nor of vision in other respects than mentioned. That there was serious brain lesion, involving probably the left optic thalamus, Dr. Hammond said he had no doubt. He had also been of opinion that there had been fracture of the inner table of the skull at the point at which the blow had been received, and he proposed trephining, which was not consented to.

Case IV. A lady about fifty years of age became the subject of most malignant persecutions through anonymous letters, the sender of which she did not know. While thinking of who the person could be that sent the anonymous letters, she happened to look out of the bay window, and saw a man and woman standing in the opening. For a moment she did not doubt the reality of the appearance, but when she arose, they gradually faded from view. Afterward they reappeared several times in the month, and finally ceased to appear altogether. The interesting feature of the case was that the man was always seen with the right eye, and the woman with the left; if she closed the right eye, she saw only the woman, but if she closed the left eye, she would see only the man. The vision could be brought on by lying down with the head low. Dr. Hammond thought nothing could be more confirmatory of the idea of the independent action of the two visual centres than such hallucinations; indeed, he thought they were strong evidence of the duality of the brain. None of the cases which Dr. Hammond had cited went to support the view that unilateral hallucinations were due to disease or derangement of the organ of special sense involved. Indeed, it was difficult to conceive what connection could exist between disease of the eyes or ears and an hallucination existing in the corresponding side, for if such disease caused a unilateral hallucination, we should expect bilateral hallucinations to be the result of disease of both eyes or ears. Dr. Hammond thought hallucinations were produced by disease or disorder of the central organ of perception, probably of the optic thalamus, and that such erroneous sensorial impressions, when limited to one side, were evidence that the visual, auditory, or other sensorial centre of the corresponding side was the starting point.

Discussion on Dr. Hammond's Paper.

Dr. Leonard Weber related a case which he thought would interest Dr. Hammond, as going to support the view which he seemed to entertain, that unilateral hallucinations were not associated with disease of the special sense concerned, but with an affection of central origin. The man came under his observation in 1879, at which time he was thirty-seven years of age, strong, healthy, very active in business, but, in consequence of domestic trouble and mental strain, he began to lose sleep, was sensitive to strong light, loud noises, etc., and from 1879 to 1881 was subject to hallucinations connected with the left ear. On going to bed he would be unable to sleep for two or three hours because of whispering noises, growing louder and louder, heard in the left ear, and of two kinds, one soothing, and another demandatory. A careful examination by himself and by a specialist in diseases of the ear, failed to reveal anything wrong connected with the auditory apparatus. When the patient's circumstances changed, and he was enabled to lead a peaceful life, the hallucinations disappeared, and had not returned.

Dr. E. C. Spitzka had not heard the entire paper, but, being familiar with the author's views regarding the function of the optic thalamus, he was somewhat surprised that he had not tried to harmonize his observed facts with the anatomical and physiological facts which had been incontestably established during the past decade. Lewes, upon whom Dr. Hammond probably rested chiefly for support of his views, expressed his ideas regarding the functions of the optic thalamus as many as twenty-five years ago, and what he wrote was mere guess-work. If he had been supported in part by recent accurate methods of research, such as the atrophy and other methods, it was a mere coincidence. Dr. Spitzka said his own views regarding hallucinations were directly opposed to those of Dr. Hammond. He believed that hallucinations had their seat in the cortex, and not in the optic thalamus, or any of the lower ganglia. The optic tract and thalamus might have undergone secondary atrophy, following enucleation of both eyeballs, yet the person would be capable of having hallucinations, showing that

hallucinations had not their seat in the optic thalamus. The case cited by Dr. Hammond, in which, during her hallucination, the patient saw the figure of a man and woman, showed the exercise of mental qualities which could have their seat nowhere else than in the cerebral cortex. Dr. Hammond had asked whether he did not believe a hallucination to be something which had been previously registered in the memory, and which was projected outward. He would reply that, without quibbling with terms, that was precisely what he meant by an hallucination.

DR. M. A. STARR related the facts in a case reported by Vetter, in which a patient, having right hemianopsia, imagined that she saw people sitting at her right side, which was the blind field of vision. By a process of exclusion, it was shown that the lesion could not have existed in the optic thalamus, but must have existed in the occipital lobe. Dr. Starr thought that in all probability the source of the hallucination, in this case, was cortical irritation. Certainly, in a great many cases, cortical irritation would produce hallucinations; this was observable in meningitis in which the optic thalamus was not implicated.

DR. W. M. LESZYNSKY recalled the case of a woman in an insane asylum, fifty years ago, suffering from mania, who was in the habit of sitting hours at a time with the left ear inclined toward a table, sending, she said, and receiving telegraphic communications. She did not receive the telegraphic communications with the right ear, which she said was only for general use. Hearing seemed to be normal, perhaps that in the left ear was a little more acute than that in the right ear.

DR. SACHS referred to a case of hemiplegia, with tumors in the optic thalamus, reported by Minot, and asked Dr. Spitzka whether he could imagine an excitation of the cerebral cortex giving rise to an image of hallucination, the revival of such image not being due to an antecedent peripheral irritation.

DR. L. J. CORNING asked why hallucinations which might be produced by impressions coming from the peripheral nerves, might not also be produced by an irritation at any point in that peripheral tract, as in the thalamus. We would all admit that the higher forms of conception took place in the cerebral cortex.

DR. C. L. DANA would like to hear the subject discussed which Dr. Hammond probably wished to bring before the Society, namely, the duality of the brain. So far as the mechanism of hallucinations was concerned, he thought all would agree with Dr. Spitzka that it was essentially in the cerebral cortex, but the exciting cause might be a peripheral irritation, acting upon the psychopathic centres.

As to the duality of the brain, he thought there were many more arguments against the proposition than for it, but the subject was one of great reach, and could hardly be discussed at this hour. The cases of hallucination cited did not, it seemed to him, prove much because only a small part of the psychical mechanism was involved. On the other hand, the experiments of Dumont Paré proved little, because hypnotized subjects could be led to do almost anything by slight suggestion. But pathological observations, the results of hemi-atrophies, of tumors on one side of the brain, studies regarding language, etc., all went to show that the two cerebral hemispheres had certain distinct functions, and that there were not two halves of the brain, each having about the same function.

DR. CHARLES HEITZMANN said that although he was not a specialist in this department, he had given considerable study to it, and he had received the impression that neurologists were not entirely clear in their ideas concerning the seat of irritation which caused hallucinations. Let the physiological fact be remembered that an impression upon our senses can be brought forward at any time in the shape of a protracted sensation, or hallucination. Thus, a peculiar sound might be heard which was merely the image of a real sound, and constituted an hallucination. Everything which we have learned is deposited in the brain, especially in the gray substance. In the case of the black cat, could the man have had an hallucination of a black cat if he had never seen a black cat? I doubt it. Wherever the centre for the image of the black cat may be, if any portion of the nerve tract, leading from the retina to that centre, be disturbed, it will be likely to excite that centre, and the image of the black cat will be revived. The special point of interest connected with the cases related was that they were unilateral. He asked if that might not be explained on the supposition that the irritation, being upon one side, led to the centre for the given image upon that side only.

DR. SPITZKA said, with regard to the duality of the mind, that there could be little difference of opinion regarding the following facts: first, that the two cerebral hemispheres were alike in structure, the variations being no greater than in other symmetrical organs, if allowance be made for a higher type of development; the hemispheres were united by a symmetrical commissure; they had corresponding peripheral tracts; they had about the same distribution of retinal fields; post-mortem examinations on the insane went to prove that the hemispheres were symmetrical; one hemisphere might be practically destroyed, and yet the individual retain power to exercise the several faculties of the mind, as reasoning, memory, judgment, etc., not, however, that there would be no paralysis or other symptom. But it was a different matter entirely when it was suggested that unilateral hallucinations could exist when the corresponding hemisphere was perfectly healthy.

DR. HAMMOND, in closing the discussion, said it was not his object in reading the paper to discuss specially the function of the optic thalamus. He might say, however, that he believed a person could have hallucinations without an optic thalamus at all, provided he had a cortex; but he believed also, that he could have hallucinations without any cortex, provided he had an optic thalamus. In the former case, the hallucinations would be due to revival of past impressions; in the latter case, they would be original, having nothing to do with former associations. A man without an optic thalamus could have an idea of a cat in the abstract, but he could not have an hallucination of a particular cat unless he had an optic thalamus. He believed that ideation resided in the cortex. With regard to the duality of the mind, many arguments might be brought forward, but time would not permit.

The Society adjourned.

— M. Laborde, at a recent meeting of the Société d'Anthropologie, exhibited some arrows which had been poisoned with curare a hundred years ago. He had wounded a few guinea-pigs with them, and the results were as powerful and as deadly as though the poison had been fresh.

Recent Literature.

Applied Medical Chemistry. A Manual for Students and Practitioners of Medicine. By LAWRENCE WOLFF, M.D., Demonstrator of Chemistry, Jefferson Medical College, etc. Philadelphia: P. Blakiston, Son & Co. 1885.

The object of this book is to present in a concise form the practical applications of the principles of chemistry, so far as these are of interest to the student and practitioner of medicine. Part I. it devoted to apparatus and manipulations; then follow in order sections devoted to the chemistry of poisons, physiological chemistry, the analysis of excretions and concretions, and sanitary chemistry; the latter comprising the chemical investigations of air, water, and food. The treatment of the four important branches of chemistry, just mentioned, in a book of the size of this one (160 pages) must necessarily be very superficial. We cannot recommend the work as a book of reference for practitioners; it may prove useful to the author's students in following his demonstrations. Some parts of the book are very carelessly written.

Aids to Gynæcology. By ALFRED S. GUBB, L.R.C.P., M.R.C.S. New York and London: G. P. Putnam's Sons. 1885.

This little paper-covered book of seventy-four pages is one of the so-called "Student's Aid Series." As the name implies, it is intended to give very briefly the salient points of the principal diseases which come under the head of Gynæcology, and it fairly well attains its object. For a quick review of the field just before an examination, it might be very useful, but there its usefulness would end. Many statements are made about which there might be some doubt, but that is excusable, for anything like a critical examination of different opinions on any given point, would be impossible in so brief a work, nor does it seem to us desirable that a book intended exclusively for students, should attempt to cover the field too thoroughly. A definite ground-work of fact should be given them, which later may be modified by study and experience. As a book of suggestions for students, this does very well.

Manual of the Diseases of Women. By CHARLES H. MAY, M.D. Philadelphia: Lea Brothers & Co. 1885.

This book, though much more pretentious in title and in appearance, has really, or should have a similar aim and scope as the preceding. The author says it lays no claim to originality, but is a compilation. The work seems to have been well and judiciously done. Our only doubt would be whether such a book would meet any very marked want. It is rather too full for the busy student to run over hastily to refresh his memory. It is certainly not full enough for a text-book, and a practitioner who wished to consult some book to help him in an obscure or difficult case, would hardly be satisfied with the brief *résumé* he would find here. Still it may meet a want among students, and it can be recommended as a safe, clear, and systematic treatise of gynæcology. It is well arranged, the etiology, pathology, differential diagnosis, symptoms, and treatment of the various diseases being briefly, but clearly indicated.

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TUBERCULOSIS OF BONE.

WHEN Shakespeare represents Richard, Duke of Gloster, contemplating his deformity, the following are the words used:

> "I, that am curtailed of this fair proportion,
> Cheated of feature by dissembling Nature,
> Deformed, unfinished, sent before my time
> Into this breathing world, scarce half made up."

The royal humpback doubtless attributed his misfortune to some wretch's curse, to a fairy's displeasure, or to the influence of an unlucky star; or, if he were anything of a rationalist, he might have thought himself a victim of a freak of Nature, of imperfect growth, or injured by some prenatal maternal blight.

If the modern prototype of Gloster is anxious to know the cause of his affliction, the man of science takes him to a microscope, and shows in him a field of pretty red cells a granular mass, and in the centre of this a cluster of blue elongated specks, called by courtesy rods, and tells him that this is his enemy; that it is this foe who has blighted his youth, handicapped his manhood, and perhaps been the originating cause in the nexus of events which has twisted his character, and given occasion for the series of acts to culminate in the disaster of his Bosworth Field.

To this height of apparent absurdity, we are led by the votaries of this new cult, who from the hidden arcana of their researches — from the region of cultures and moulds — issue edicts and bulls, which now are ruling the world, shaping legislation, and awaking the fashion of pilgrimages to the shrines of the popular high priests.

It would hardly be surprising if the conservative and sensible layman should prefer the legends of the old nurses to this modern absurdity. It must, however, be frankly admitted that the theories advanced are supported, as a rule, by well-grounded facts, and, if we leave out the expressions of over-zealous enthusiasts, are so presented as to leave the onus of the discussion on the doubter.

No attempt will be made here to maintain the relation of the tubercle bacillus to tuberculosis; it will, nevertheless, be assumed that the microbe is the chief

efficient cause, when acting on proper soil, for the pathological changes known as tuberculosis.

The relation of tuberculosis to caries of bone, is, however, a matter which has awakened a good deal of interest in the European surgical world, and is the subject named for a discussion in the next German Congress of Surgeons. Volkmann,[1] at the last Surgical Congress, boldly states as an aphorism that "Everything which has hitherto been classed as caries of bone — spina ventosa, scrofulous inflammation of the joint or bone, tumor albus, strumous disease of the bone — belongs, with but few exceptions, to true tuberculosis."

This tuberculosis originates either in the bone, or in the synovial membrane, but the former is much more common in children. It begins with the formation of a circumscribed tuberculous focus in the epiphysis, which, as a rule, remains comparatively small. The diffuse form of caseous infiltration is less common. The affection, at first, is not properly a joint affection, but one of the bone, and may remain extra articular if the suppuration extends outside, instead of bursting into the joint. In children there is in the spongy bone a special tendency for the localization of the disease, the tuberculous tissue being inclined to undergo caseous degeneration and form a mass, separated from the rest of the bone by a line of demarcation, containing granulation cells, which, though studded with miliary tubercles on the innermost layers, protects the neighboring bone from infection; so that a direct extension in the bone from a caseous sequestrum is exceptional.

There may, however, be two or more tubercular foci in the same epiphysis. The olecranon and the iliac portion of the acetabulum are known to be common places for these foci to be formed in, but the matter of favorite localities for the affection has not been thoroughly studied as yet.

Primary tubercular disease of the synovial membrane is more common in adults, particularly in old people, and is seen most commonly in the knee. Tubercular synovitis may be accompanied, by development of granulations, forming the so-called fungous disease of the joint; or these may be absent, and a torbid suppuration of the joint may be present — a form occasionally seen in old persons and of unfavorable prognosis. The tubercles may be deposited in a cluster, or they may be widely disseminated on the synovial membrane.

Non-tubercular affections of the joint only exceptionally become tubercular, as far as the matter is, at present, known. Tubercular disease of the joints, whether primarily synovial or osseous, does not necessarily involve suppuration, but may develop into the form of the so-called *caries sicca*. Tubercular eruptions in the synovial membrane may occasion simply an extensive serous effusion, classed as Hydrop's tuberculosus, but this form is rare. Tuberculosis of bone, not in the neighborhood of joints, is to be found in the phalanges, the metacarpals, and metatarsals, exceptionally in the ulna and radius, tibia and femur, but is almost exclusively confined to young childhood. Tuberculous suppuration of the orbital plate of the upper jaw is also seen in young children, tuberculous caries of the ribs is not uncommon, but the most common of tuberculous affections of bone not involving joints is caries of the spine. Tuberculosis of bone never occurs in the long bones of adults.

Tuberculous affections of joints, bones, skin, and glands, apparently, are less liable to give rise to general tuberculosis than tuberculosis of the lungs or intestines. Tuberculosis does not recur in the wound after complete removal, as by amputation for tuberculous disease of joints, even if the patient may be suffering from another tuberculous disease, as phthisis; but wounds after operations for bone tuberculosis, may undergo tuberculous infection if the tuberculous matter has not been thoroughly removed during the operation. Local recurrence, therefore, after operation, is not to be attributed to a vice of the constitution so much as to a lack of thoroughness on the part of the operator. In operating on joint affections of this sort, it is, therefore, essential that not only the affected portion of the bone should be removed, but that the whole of the diseased synovial membrane should be carefully dissected off. Curetting the synovial membrane is said not to be sufficiently thorough, but in osseous tissues, owing to their greater resistance, all tuberculous matter can be removed by the curette.

Sinuses remaining for a long time, indicate the presence of tuberculous infection, and demand, for a speedy cure, either dissection, thorough cauterization with the actual cautery, or packing the parts with iodoform after enlarging the opening.

Thoroughness in detail is the secret of success in this branch of surgery, as in all others; but locally removing the disease, though it may prevent local extension, does not prevent reappearance elsewhere. A spontaneous arrest of the disease under conservative treatment, is, however, not at all uncommon, particularly among children.

Therefore, even though the modern theory of the origin of tuberculosis, and of the tuberculous nature of the caries be entirely accepted, the riddle seems as far from solution as ever; for the important query remains unanswered as to the cause for individual surrender, and for individual resistance to the bacillus; why certain races, certain stocks, are doomed from the first to a decimation in the warfare with the fearful invisible enemy, while others escape the same dangers, and bloom under the same conditions.

To state the necessity of suitable soil for the development of the bacillus is to reopen the question, and we are still obliged to answer our questioning deformed layman by telling him that he was born under an unfavorable star, or that a fairy had cursed him at his birth.

In the meantime, however, we can enjoy the slight satisfaction of telling him that if he place his children

[1] Centralblatt f. Chirurgie, No. 24, 1885.

in a dwelling clean, swept, garnished, free from microbes, and keep them, during their growing years, under such conditions that only filtered air can reach them, only aseptic clothes can cover them; if their food be ideally perfect, and their associates and belongings scientifically immaculate, they are certain to grow up and encounter the bruises of childhood without fear of the deformities which crippled him.

PHYSIOLOGICAL AND THERAPEUTIC EFFECTS OF COCAINE.

DRS. RIGOLET and Victor Pradel have recently presented to the Société de Thérapeutique of Paris two exhaustive theses on the physiological and therapeutic properties of hydrochlorate of cocaine, based on experimental studies.

These are Rigolet's conclusions:[1]

(1) Hydrochlorate of cocaine acts on the periphery of the nerves, abolishing momentarily the sensibility of the mucous membrane and skin; (2) The anæsthetic effect thus produced is essentially local; (3) In frogs this salt exercises an active effect on the heart, slowing its beatings, and finally arresting it in systole; (4) It has a manifest vaso-constrictive action, and produces, at first a fall, then a rise in the blood pressure; (5) Hydrochlorate of cocaine has no effect on the secretions, except that of the submaxillary gland whose salivary secretion is augmented by it; (6) In frogs, it diminishes the respiratory movements; in the higher animals it accelerates the movements and increases their amplitude when injected into the veins; (7) Cocaine muriate produces hyperthermia in the dog; (8) It is eliminated by the urine; (9) It retards fermentations.

In toxic dose, cocaine acts on the nervous centres, and exaggerates the excito-motor power of the spinal cord. It tetanizes the muscles. With regard to the therapeutic employment: cocaine renders great service in all operations where it is not necessary to produce general anæsthesia. It is in ophthalmic surgery that its advantages are most conspicuous. Its anæsthetic effects are less marked in eyes affected with inflammation than in those exempt from all phlegmasia; it will not render much service as an analgesic to inflamed eyes. This salt may be utilized as a narcotic in ophthalmology. It seems also to give good results in gastralgia, in sciatica, and in other neuralgic affections. In the treatment of morphio-mania cocaine may be substituted for morphia. Subcutaneous injections of chlorhydrate of cocaine seem to be quite harmless. The solutions most in use contain one, two and five per cent.: the weaker solutions are quite safe for internal administration. The combination of cocaine with ether and chloroform does not seem markedly to increase the analgesic effects of the former.

Pradel's conclusions are as follows:

(1) Hydrochlorate of cocaine has a very remarkable excito-motor action, which can be observed in all animals, but which takes on a different character according to the animal under experimentation. In the monkey it causes violent convulsions, to produce which three centigrammes of cocaine per kilogram of the weight of the animal are required; (2) Certain therapeutic agents have a marked influence on these convulsions. Choral prevents, while ether retards them. Morphia aggravates these convulsions, and the association of these two alkaloids, even in non-toxic doses, rapidly produces the death of the animal; (3) Cocaine is a hyperthermic medicament and the elevation of temperature is proportional to the dose employed. This hyperthermia takes place independently of all convulsion. Choral prevents this elevation of temperature. Morphia administered along with cocaine, causes a fall in the temperature which is quite notable. Antipyrine has no action on the hyperthermia produced by cocaine; (4) Cocaine anæsthetizes locally the mucous membranes; it has no action on the healthy and unabraded integument. Cocaine enters into the category of anæsthetic depressors of sensibility and exciters of motility. It resembles in this respect strychnine; (5) In hypodermic injections cocaine, in doses of one centigram produces a marked analgesia, varying according to the subjects; (6) Cocaine has a real action on the fermentations which it retards, though less than creasote and phenic acid.

With regard to therapeutical effects of this alkaloid, M. Pradel deduces the following conclusions from clinical observations:

(1) All the mucous membranes are anæsthetized by cocaine; the quantity necessary to obtain an analgesic effect varying with different organs; (2) Several drops of a two per cent. solution suffice to render the superficial part of the eye analgesic; (3) To obtain the same effect on the iris, it is necessary to make successive instillations every five minutes for the twenty minutes preceding the operation; (4) The analgesic action of cocaine on the inflamed eye is disputable; (5) Cocaine does not seem to produce mydriasis, and when such a result is experienced, it is because the cocaine employed is not pure; (6) The urethral mucosa is rendered analgesic by cocaine; solutions of two per cent. suffice for this; (7) Under the influence of this analgesia spasms and contractures disappear, and catheterism is rendered easier; (8) Cocaine does not prevent the supervention of "catheter fever;" (9) To obtain analgesia of the mucous membrane of the ear and nose, fifteen to twenty per cent. solutions are necessary; (10) For the mouth and throat, solutions of different strengths are required; ten to fifteen per cent. for the palate, five to ten per cent. for the fauces, two to three per cent. for the floor of the mouth; (11) Sprays of cocaine have produced suffocation; (12) Painting with cocaine is useful in dysphagia due to ulceration of the pharynx; (13) For the anus, strong solutions are necessary; five to ten per cent.; (14) Solutions of two per cent. are sufficient for the vulvo-vaginal mucosa in cases of vaginismus; (15) The neck of the womb is made analgesic by solutions of twenty

[1] Bull. de la Soc. de Thér. Science, October 28, 1885.

per cent.; (16) With solutions less strong (four per cent.) a moderate analgesia is obtained which mitigates the suffering of child-bearing; (17) Cocaine acts on the skin denuded of epidermis as it acts on the mucous membranes. This effect has been utilized in fissures of the nipple; (18) The analgesia produced by hypodermic injections of cocaine may be useful in certain operations, such as those for phymosis, fissure and hæmorrhoids; (19) Cocaine calms, for a certain time, vomiting of hysterical nature. The employment of cocaine ought to be carefully watched in neuropathic persons: (20) In therapeutic doses cocaine is unattended with any injurious effects; (21) When cocaine is administered subcutaneously, pains must be taken to ascertain the particular susceptibility of the patient to this alkaloid, and knowing that some persons are peculiarly affected by it, the physician should feel his way carefully.

A BOSTON POLYCLINIC.

ONE of the latest phases of medical education in America has been the rapid development in the large cities of the east of some form of Polyclinic, where the abundant material that swarms to their hospitals and dispensaries could be utilized for clinical instruction, and where the graduate in medicine could find some of the advantages of practical teaching that he had formerly sought abroad.

The Polyclinic in New York is already well known and the number of doctors who come to its exercises shows how real is the demand for such an institution; also in Philadelphia and Baltimore other organizations of the same kind have been established. In Boston the growth of this method of instruction has been so quiet that its existence has been less known, yet, starting in the summer of 1879, there were last year about fifty persons in attendance. Each year the increasing proportion of those availing themselves of these advantages have been graduates, and the rest advanced students of medicine. During the first year these courses were given under the title of "Clinical Courses of Instruction in Medicine." But with an increase in the teaching force and in the numbers attending a more compact organization was found necessary, which has been brought about by uniting these instructors together as the Boston Polyclinic.

In the beginning, two objects were kept in mind:— to provide instruction which would be mostly clinical and practical, and to limit the number in each class so that every member could examine the cases for himself, and this plan has been carefully adhered to.

Last summer nineteen courses were offered with a maximum number of ten in the largest class. But in many others the number was limited to four or five and for the last two years the work has been carried on during the winter as well as the summer months. There can be no doubt that this form of medical instruction is a most desirable one, for, whilst avoiding the evil of adding another to our overburdened list of institutions that give degrees, it increases the amount of available clinical instruction, of which there cannot be too much, and of which there has been in former years generally far too little. By competition it sharpens and stimulates instructors. The subject taught, the instructors and the instructed must all profit by such a system. The teachers in Boston have charge of clinics at the City and Massachusetts Hospitals, the Eye and Ear Infirmary, and Boston Dispensary, so that a large and varied material is at their disposal. In this work there has been no spirit of antagonism to existing institutions, but rather an effort to supplement and stimulate them by offering more abundant opportunities, and thus draw men to this city who would otherwise seek this instruction elsewhere. In the JOURNAL of April 13th, 1882, we took occasion to refer favorably to these courses of instruction in discussing "extra-mural" teaching, and since then they have been improved in efficiency and scope.

Those who have attended the Vienna Polyclinic will remember with pleasure the facilities there offered for instruction and study, and will see in the development of the Polyclinic on this side of the ocean an extension of its methods and its aims.

Many doctors after a few years of practice would like to devote some weeks to the study of a department of medicine for which they previously had no opportunity, provided it could be done without too great a sacrifice of time and money; but formerly this instruction could only be had abroad. For this reason the advantages which are now offered to Americans in the larger cities of the country have an especial value, for they are now able to see a large number of cases under the instruction of men who have made themselves familiar with what is best in the methods and teachings of the foreign schools during a stay abroad, and have learned by experience what is useful and applicable in the diagnosis and management of disease as presenting itself to us at home.

MEDICAL NOTES.

— The *Medical Record* comments on the chances of success in the medical profession as compared with those in business life, and quotes Sir James Paget, who has traced the course in life of one thousand medical students, taken at random from an English college. About five per cent. of them failed utterly, while nearly ten per cent. more left the profession without giving it a fair trial; one-half made a fair living, six and a half per cent. achieved considerable success, and two and three-tenths became eminent. Of the whole number who began, less than two-thirds achieved any kind of success. Whether Sir James Paget's figures will apply to the United States, it is impossible to say definitely. Our contemporary remarks that the opportunities for a successful career are naturally much greater here, and if it were not for the fact that competition is twice as active, a much larger percentage of successes would be scored. As it is, it thinks that the probabilities are, that of the four or five thousand

medical students who are annually graduated by our schools, over one-third of them fail or fall by the way.

BOSTON.

— The Obstetrical Society of Boston, celebrated the completion of its twenty-fifth year on Tuesday last, by an elaborate dinner at the Parker House.

— A few social gatherings of the profession have been arranged for at the rooms of the Boston Medical Library Association. The first will occur on January 15, at which Mr. Cushing, the ethnologist, will give an address on "Medical Practice as it Exists among the Zuñi Indians."

— The Boston City Hospital has secured for the room devoted to the treatment of out-patients with diseases of the nervous system, a new and unusually complete system of electrical apparatus.

— The Children's Hospital has received, during the past year, legacies to the amount of over $25,000. The managers hope to be able, before long, to undertake the erection of a new wing, which is much needed.

— Three children at Quincy Point, near Boston, are reported as having been poisoned last week by coal-gas from a stove in the room in which they slept. The father was awakened by a peculiar moaning, and removed them at once to the open air, where they were resuscitated.

NEW YORK.

— At a meeting of the New York County Medical Association, held at the Carnegie Laboratory, December 21st, Dr. T. R. Varick exhibited a stone weighing seven ounces and four scruples, Troy weight, which he removed from the bladder of a lad fourteen years of age, on the 9th of December, by the bi-lateral operation. It measured six and three-quarters inches in circumference longitudinally, and five and one-half inches transversely. He had had it sawed open, and the section showed a nucleus of uric acid, surrounded successively by layers of urate of ammonia, triple phosphates, and urate of ammonia again. It had been six years since the first symptoms of bladder trouble were noted.

In operating, he had commenced with the left lateral incision, but, finding that this was insufficient, he made a right lateral incision also, so that the external wound was somewhat of a V shape. On account of the large size of the stone, he had found great difficulty in extracting it, and had, in fact, to follow the curve of the pelvis, and deliver it very much as if it had been a fœtal head. There was considerable shock from the operation, but the patient rallied speedily, and up to the present time (the twelfth day), he had progressed without any unfavorable symptom. The urine had been found to contain a large amount of mucus, some pus, and a small quantity of albumen.

Dr. Varick said that, according to Sir Henry Thompson and other authorities at the present day, the rule was, that in all cases where the stone weighed anything over three ounces, the high, or supra-pubic operation was to be adopted; but in this case, on account of the elasticity of the soft parts, and the small size of the prostate, from the patient's age, he had decided to disregard this. After the operation, he had applied hot water to the raw surfaces, and the wound was healing rapidly, in fact, too rapidly, since, on account of the condition of the bladder, he thought it better that the urine should find exit through the perineum for some time. The boy was certainly doing perfectly well up to the present, but whether there would remain any resulting disease of the kidneys or not he could not say.

Dr. J. W. S. Gouley said that this case afforded a beautiful illustration of the extent to which young subjects will bear bladder irritation. He thought that the boy would get well, and that he would not have any pyo-nephritis. If the patient had been an old man in such a case as this, there would undoubtedly have been a fatal termination, as there would have resulted disease of the ureters, followed by that of the kidneys. The good result here was due to the practical absence of the prostate. Personally, he said he would not have dared to extract such a stone as this entire, but would have broken it up into four or five pieces. There were instruments capable of doing this, and if it could not be accomplished otherwise, it might first be perforated in several places. This was a much safer procedure, and Malgaigne had called it lithotriptic lithotomy. Dr. Gouley had given it the name of lithoclastic lithotomy, which he thought was better. He was glad that Dr. Varick had refused to perform the supra-pubic operation, and he said that he would take this opportunity to offer his protest against this procedure. The high operation was a dangerous one, the mortality from it being very great, and among the complications which were to be feared in connection with it were the protrusion of the intestines from the wound, and the infiltration of urine. This might be the present fashion; but it was one that would pass away, as it had already done three times before.

— At the last meeting of the Medical Society of the County of New York, held December 28th, Dr. John C. Peters, chairman, reported the conclusions of the Committee on Hygiene upon the conferences lately held with the Taxpayers' Association in regard to the proposed great Quaker Bridge dam in connection with the Croton water system. He said that, owing to the urgent need of an increase in the water supply, the committee had joined in the petition for the construction of the Sodom dam, which would insure double the present supply to the city in two or three years, at a cost of $1,250,000. At the same time, the committee did not feel disposed to stand in the way of the Quaker Bridge dam project, as it had the earnest endorsement of engineers. There was uncertainty, however, about how long it would take to build it, and what it would cost, and the city could not wait upon such an uncertainty. When completed, it would hold water enough for 4,000,000 people, pouring out 400,000,000 gallons a day. With such an outflow, he did not believe the water could become stagnant or impure, as the oppo-

nents of the plan urged, while it would certainly catch the Croton overflow, and stop the present enormous waste. After some discussion, in which one of the speakers said that if the Brooklyn Bridge had been constructed of solid masonry, it would be a small affair compared with the proposed structure, and that of nine huge dams, none so large as this, four had broken through, the report of the committee was adopted.

At the conclusion of a recently published communication on this subject, in which he points out a number of objections to the Quaker Bridge dam, Mr. James Renwick, the architect, says: "There are so many difficulties, therefore, to be overcome, so many unknown quantities also in the problem, it seems to me that it would be unwise, as well as improvident, to attempt it; and particularly as the cost will, in my opinion, be at least three times the $4,000,000 or $5,000,000 estimated. On the other hand, a sufficient supply can be got by building comparatively small dams above the present dam at a low expense. Why, therefore, should we try to do what is barely possible, when, by the latter means, we have a certainty, and freedom from danger, for a much less cost than that of the Quaker Bridge dam? I may also state that we have had one earthquake, and that, therefore, we may have another. Should this happen, and a crack be made in the dam, it might destroy the whole structure, and the wave created by letting so enormous a body of water into the Hudson, would sweep the river from end to end."

— The first cremation in Buffalo was successfully made December 27th, at the new temple of the cremation company, and the statistics of the test were as follows: Weight of body, 98 pounds; weight of ashes, $3\frac{7}{16}$ pounds; time consumed in the cremation, one hour and five minutes; estimated highest degree of heat in the retort, 2,332° Fahrenheit. The most successful incineration thus far made at the Mount Olivet Crematory was accomplished December 30th, when the time consumed was one hour and thirteen minutes, or about two hours shorter than that of any previous cremation there.

— The reports thus far received show a gratifying increase over last year in the collection made in the churches on Hospital Sunday, this result being no doubt principally due to the fine weather of the last Sunday of 1885.

Correspondence.

ELECTRICITY AS A THERAPEUTIC AGENT IN GYNÆCOLOGY.

BERKELEY, Cal., Dec. 22, 1885.

MR. EDITOR, — I am heartily glad to see this matter brought prominently before the profession by the paper of Dr. Paul F. Mundé,[1] and the discussion which followed it, because I know that gynæcologists generally fail to appreciate the value of this agent, and greatly overestimate the trouble and annoyance of its application.

Exactly why electricity should prove so beneficial in such opposite conditions as amenorrhœa and menorrhagia, it is impossible to say, except in a general way, that either condition is produced by or productive of deficient or perverted nervous force. But in either condition, (*of course* excluding all cases where there is acute, or even subacute inflammation) I *know* that the galvanic current, *properly applied*, will more generally bring relief than any other form of treatment.

My aims, and rules of procedure have been few and simple: —

First, never to produce more than a very slight pain, in some cases a slightly hot tingling, in others "a little unwell pain," as the patients express it. Broadly, one may say that this should be accomplished by from three to six or eight, or at the most ten cells of a "Smart" battery. But the batteries vary greatly, and each physician must become thoroughly acquainted with his own instrument. Nor do I believe that the galvanometer, as urged by Dr. Birdsall, can take the place of the patient's sensations. I use a cup and stem insulated electrode at the cervix uteri, (*positive* pole, to lessen the tendency to stick to the mucous membrane), and interrupt the current with a common sponge electrode over the pubes. This — while bringing the uterus, and if desired, the ovaries and tubes well within the circuit — does not involve any undressing of the patient, or at most only the removal of the drawers, if worn close.

And second, to give the *tonic* effect of the current, but *never to exhaust the nerves* by a too prolonged application. This I consider a matter of the very first importance. My applications vary from three to five minutes, and never (in such cases) exceed the latter limit. Since the adoption of this rule, my results have been far more satisfactory.

As a minor, but still important advantage, I may point out that neither Dr. Garrigues nor any one else, need give up the use of electricity in these cases "because it takes up too much time." Very truly yours,

ALEXANDER R. BECKER, M.D.

[1] Read before the New York Academy of Medicine, November 5, 1885, Journal, November 19th.

HUMANIZED VIRUS.

JANUARY 4, 1885.

MR. EDITOR, — I am very glad to see by Dr. Chas. V. Chapin's letter in your issue of December 31st ult., that the stock of long humanized virus, unmodified by renewal from the cow for over eighty-five years, is still maintained at Providence: for a comparison between the vaccinia induced by this stock and by that of heifer transmitted cow-pox virus is thus made easily practicable. This difference can readily be seen by the simple experiment of vaccinating an infant upon one arm with the former, and upon the other with the latter stock. To observe the difference in constitutional effect, it would of course be necessary to devote a separate child to each, preferably two children in the same house. The different arms should be inspected and compared daily throughout the entire course of the disease, as should also the resulting crusts and scars. If the Providence stock have the pedigree claimed for it, it will produce a disease which bears to that described by the first writers on vaccination, a resemblance which may be compared to that of a faded-out photograph of a person taken by some rural artist, to the person himself. The vesicle will be small, involving the skin but very superficially, and liable to spontaneous rupture. The areola will be slight, transient, and appear at the beginning of the eighth or end of the seventh day. Except in very rare instances, no febrile reaction will occur. The crust will be small, thin, and quite generally wanting in umbilication; will fall on the fourteenth day, and finally the resulting scar will be extremely superficial and barely discernible.

On the other hand, the results of vaccination with heifer transmitted cow-pox virus will be papulation of points of insertion at the end of the third or beginning of fourth day; first development of vesicle at end of fifth day; commencement of areola at latter end of ninth or beginning of tenth day; decline of areola twelfth to fourteenth day; decided febrile reaction coincident with the areola; vesicle large,

and not liable to spontaneous rupture; the crust adherent till the twenty-first to thirty-second day, umbilicated, nearly as large as the vesicle, of a dark color, and as the morbid process involves the true skin to a very considerable extent, the lower portion of the crust will consist of a slough composed of the dermal tissue. The scar left behind will be deep, clear, and well marked, not foveolate or pitted, but characterized by cicatricial rays or bands, radiating from the centre.

Virus from the animal, when dried upon points, is not so readily soluble as humanized virus, and of course it is necessary that it be perfectly dissolved before it is applied to the arm. From the want of appreciation of this fact, and of the slight extra care which is thus made necessary, some have been led into the very erroneous opinion that it is difficult to make the virus take. The fact is that it will produce vaccinia in precisely the same percentage of primary vaccinations as the humanized, and in a far greater, nearly double, in revaccinations. Vaccinations with animal virus are also free from the troublesome complications sometimes attending those from the humanized. I wish it to be understood always that I speak of animal virus worthy of the name, taken from proper vesicles at the proper time. It would be well if the fact could be generally appreciated that the object of vaccination is not to produce a disease of as mild and trivial a character as possible, but one that will protect from variola. The literature of post-vaccinal variola shows the protective power of long humanized virus. I have yet to learn of a case of that disease following successful vaccination with the animal virus. I have revaccinated this season a number of children of fifteen years of age who were vaccinated with the animal virus in their infancy, and in none of them have I been able to produce any effect.

Yours respectfully,

S. C. MARTIN, M.D.

27 DUDLEY ST., Roxbury.

REPORTED MORTALITY FOR THE WEEK ENDING DECEMBER 26, 1885.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diphtheria and Croup.
New York	1,340,114	638	241	20.10	14.40	1.80	1.00	10.05
Philadelphia	927,995	361	113	23.24	14.28	—	3.92	12.60
Brooklyn	644,526	—	—	—	—	—	—	—
Chicago	632,100	—	—	—	—	—	—	—
Boston	360,406	159	40	13.23	17.64	5.04	1.26	6.20
Baltimore	408,520	129	47	6.24	3.90	—	3.12	—
St. Louis	400,000	—	—	—	—	—	—	—
Cincinnati	272,400	102	34	12.74	16.66	1.96	2.94	5.88
New Orleans	234,000	—	—	—	—	—	—	—
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	—	—	—	—	—	—	—
Pittsburgh	180,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	37	8	8.10	16.20	2.70	—	4.40
New Haven	62,882	—	—	—	—	—	—	—
Nashville	54,400	25	6	16.00	20.00	—	4 00	12.00
Charleston	52,286	28	11	20.42	7.14	7.14	—	—
Lowell	64,051	15	11	26.66	20.00	—	26.66	—
Worcester	68,383	17	9	17 66	17.66	—	—	17.66
Fall River	56,863	12	3	25.00	8.33	—	25.00	—
Cambridge	59,660	12	3	—	25.00	—	—	—
Lawrence	38,825	18	—	11.11	16.66	—	11.11	—
Lynn	45,861	13	2	15.38	23.07	—	—	7.69
Springfield	37,577	9	4	22.22	—	—	—	11.11
Somerville	29,982	—	—	—	—	—	—	—
Holyoke	27,894	9	5	33.33	11.11	—	—	22.22
New Bedford	33,393	8	3	12.50	25.00	—	—	—
Salem	28,084	7	1	14.28	14.28	—	14.28	—
Chelsea	25,709	8	2	12.50	37.50	—	—	—
Taunton	23,074	11	2	9.09	27 27	—	—	9.09
Gloucester	21,713	4	1	—	25.00	—	—	—
Haverhill	21,795	9	3	33.33	11.11	—	—	33.33
Newton	19,759	1	—	—	—	—	—	—
Brockton	20,783	4	1	25.00	25.00	—	25.00	—
Malden	16,407	2	1	50.00	50.00	50.00	—	—
Newburyport	13,716	—	—	—	—	—	—	—
Waltham	14,609	2	1	—	50.00	—	—	—
Fitchburg	15,375	—	—	—	—	—	—	—
Northampton	12,896	2	—	50.00	—	—	—	—
Massachusetts Towns	—	—	—	—	—	—	—	—

Deaths reported 1,682: under five years of age 564; principal infectious diseases (small-pox, measles, diphtheria, and croup, whooping-cough, erysipelas, fevers, and diarrhœal diseases) 288, consumption 249, lung diseases 239, diphtheria and croup 146, typhoid fever 43, diarrhœal diseases 26, scarlet fever 25, whooping-cough 21, malarial fever 12, puerperal fever four, cerebro-spinal meningitis four, erysipelas three, measles two, small-pox two. From scarlet fever, New York 12, Philadelphia three, Cincinnati two, Lynn, Springfield, Holyoke and Chelsea one each. From whooping-cough, New York 16, Charleston three, New Bedford and Baltimore one each. From malarial fever, New York eight, Baltimore two, Philadelphia and Nashville one each. From cerebro-spinal meningitis, New York three, Northampton one. From puerperal fever, New York two, Baltimore and Charleston one each. From erysipelas, New York three. From small-pox, New York two. From measles, New York two.

Cases reported in Boston: scarlet fever 31, diphtheria 22, and typhoid fever seven.

In 107 cities and towns of Massachusetts, with a population of 1,207,964 (population of the State 1,941,465), the total death-rate for the week was 15.63 against 15.29 and 16.26 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,266,446, for the week ending December 12th the death-rate was 20.3. Deaths reported 3,464: infants under one year of age 793; acute diseases of the respiratory organs (London) 443, whooping-cough 111, measles 109, scarlet fever 42, fever 32, diarrhœa 24, diphtheria 29, small-pox (Bristol and Liverpool, two each, London one), five.

Birkenhead 20.7; Birmingham 19.6; Hull 20.7; Leeds 21.6; Leicester 16.9; Liverpool 24.6; London 18.8; Manchester 24.1; Nottingham 22.7; Sheffield 22.5; Sunderland 17.5.

In Edinburgh 21.7; Glasgow 28.8; Dublin 31.0.

The meteorological record for week ending December 26th, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps: —

Week ending Saturday, Dec. 26, 1885.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday,...20	29.769	23.1	33.3	16.8	65.0	50.0	56.0	57.0	N.W.	W.	W.	20	21	12	F.	C.	C.	—	—
Monday, ..21	29.894	24.6	37.1	14.6	67.0	76.0	65.0	69.3	W.	S.W.	N.	19	9	22	C.	N.	O.	—	—
Tuesday,..22	30.274	29.8	37.0	18.2	67.0	58.0	62.0	62.3	W.	W.	W.	11	7	6	C.	C.	O.	—	—
Wednes,..23	29.936	49.8	60.7	36.0	76.0	41.0	56.0	57.7	W.	S.W.	S.W.	10	14	16	C.	F.	O.	—	—
Thursday, 24	30.063	36.6	48.9	23.0	76.0	36.0	71.0	61.0	W.	N.W.	N.	9	24	10	O.	C.	C.	—	—
Friday, ...25	30.393	22.3	28.0	19.4	63.0	62.0	54.0	59.7	N.	N.E.	N.E.	16	23	24	O.	O.	O.	—	—
Saturday, 26	30.170	16.9	21.6	12.0	60.0	35.0	83.0	58.7	N.	N.	N.	30	35	20	O.	O.	N.	3.0	.01
Mean, the Week.	30.166	29.0	38.1	20.0				60.9											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM DECEMBER 26, 1885, TO DECEMBER 31, 1885.

MADDOX, THOS. J. C., assistant surgeon and first lieutenant. Killed December 19, 1885, in affair with Apache Indians, near the White House, New Mexico.

IVES, F. J., assistant surgeon. Ordered to report to commanding officer, District of New Mexico, for duty in the field. S. O. 127, Department Platte, December 23, 1885.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE FOR THE TWO WEEKS ENDING DECEMBER 26, 1885.

PURVIANCE, GEORGE, surgeon. To proceed to Chicago, Ill., as inspector, December 23, 1885.

GUITERAS, JOHN, passed assistant surgeon. To proceed to Saint Louis, Mo., for duty, December 23, 1885. Granted leave of absence for seven days, December 26, 1885.

URQUHART, F. M., passed assistant surgeon. To proceed to Charleston, South Carolina, for temporary duty, December 23, 1885.

BRATTON, W. D., assistant surgeon. Granted leave of absence for twenty-two days, December 22, 1885.

MCINTOSH, W. B., assistant surgeon. Granted leave of absence for fourteen days, December 22, 1885.

DEATHS.

Died in South Scituate, Mass., December 29, 1885, Nathan Pike Brownell, M.D., M.M.S.S.

In Worcester, Mass., December 30, 1885, Rufus Woodward, M.D., M.M.S.S., aged sixty-six years.

OBITUARY.

JOHN ORNE GREEN, M.D.

Dr. John O. Green, of Lowell, whose death in his eighty-seventh year, was recorded in our recent necrology of the Massachusetts Medical Society as occurring on December 23d last, was born in Malden in 1799, and was the son of Rev. Aaron and Eunice (Orne) Green; he went to school in Medford, entered Harvard College in 1813, graduating in 1817; he taught school for a time both in Andover and in Castine, Me.; he took his M.D. degree at the Harvard Medical School in 1822, and settled in East Chelmsford — which afterwards became Lowell — in the same year.

Here Dr. Green continued to live, with the exception of a visit to Europe in 1847, the rest of his long and useful life. He grew up with the place and became identified with many of its most important civic and social interests. He was for more than fifty years vice-president of the Lowell Institution for Savings, and latterly its president; for thirteen years a member of the School Committee, at one time president of the Lowell Lyceum, of the Lowell Bank, of the Old Resident's Association, in which he took a deep interest: he also served the city as an alderman, and was health commissioner. He was for many years senior warden of the church of St. Anne. He was president of the Middlesex District Medical Society, became a councillor of the Massachusetts Medical Society in 1841, and its orator in 1847.

Dr. Green was married three times. His first wife was a daughter of Dr. Calvin Thomas, a successful and much respected practitioner, of Tyngsborough, Mass.; his second wife was Miss Slater, of Rhode Island; and his third wife, who died a few years ago, Miss McBurney, of Boston. He leaves two sons, one of whom, Dr. J. Orne Green, is a member of the Massachusetts Medical Society and a resident of Boston.

SOCIETY NOTICES.

GYNÆCOLOGICAL SOCIETY OF BOSTON. — The annual meeting of the Society will be held at the Medical Library Rooms, No. 19 Boylston Place, on Thursday, January 14th, at 4 o'clock, P.M. The Annual Address will be given by the President, Dr. H. O. Marcy. Subject: "The Perineum of the Female: its Anatomy and Function." Illustrations upon the screen by the oxy-hydrogen light. All members are urged to be present.

H. J. HARRIMAN, *Secretary.*

BOSTON MEDICAL LIBRARY ASSOCIATION. — The Medical Library, 19 Boylston Place, is hereafter to be open on Tuesdays and Fridays, from seven to ten in the evening, instead of closing every day at six, as hitherto.

MASSACHUSETTS MEDICAL SOCIETY, SUFFOLK DISTRICT. — The Section for Clinical Medicine, Pathology and Hygiene will meet at 19 Boylston Place, on Wednesday, January 13, at 7.45 o'clock. Papers: I. Dr. E. O. Otis, "Random Notes on some Health Resorts." II. Dr. H. F. Vickery, "Enlarged Cervical Glands." III. Dr. E. B. Lane, "Two Cases of Cerebral Tumor, with autopsy." F. KNIGHT, M.D., *Chairman.*

ALBERT N. BLODGETT, *Secretary.*

BOOKS AND PAMPHLETS RECEIVED.

Joint Diseases: Treatment by Rest and Fixation. By De F. Willard, M.D. Philadelphia. Surgeon to the Presbyterian Hospital, etc. (Reprinted from the New York Medical Journal for December 5, 1885).

Surgical Treatment for Infants. By DeForest Willard, M.D., Lecturer on Orthopædic Surgery, University of Pennsylvania, etc. (Reprint from the Medical and Surgical Reporter, of July 25 and August 1, 1885).

Kosmon Almanac. The new Calendar. Based on the Movements of our Solar Phalanx. Also an Account of Shalam, the first Community of the kind in all the World. Faithists in Jehovih the Creator.

Practical Notes on the Treatment of Skin Diseases. I. Diseases of the Perspiratory and Sebaceous Glands. By George H. Rohé, M.D. Baltimore, 1885.

The Field and Limitation of the Operative Surgery of the Human Brain. By John B. Roberts, A.M., M.D., Professor of Anatomy and Surgery in the Philadelphia Polyclinic, etc. Philadelphia: P. Blakiston, Son & Co. 1885.

A Manual of Animal Vaccination preceded by Considerations on Vaccination in General. By Dr. E. Warlomont, Member of the Royal Academy of Medicine of Belgium. Translated and edited by Arthur J. Harries, M.D. London: J. & A. Churchill. 1885.

Text-book of Ophthalmoscopy. By Edward G. Loring, M.D. Part I. The normal eye. Determination of refracture. Diseases of the Media. Physiological optics and theory of the ophthalmoscope. New York. D. Appleton & Co. 1886.

Introductory Lecture on Tumors. Delivered at the College of Physicians and Surgeons of Chicago by M. Senn, M.D., Milwaukee, Wis. (Reprint from Philadelphia Medical Times, December 12, 1885.)

Decisions under Medical Practice Laws. (Reprint from Seventh Annual Report Illinois State Board of Health, 1885.)

Original Articles.

SOME CASES OF REFLEX NEUROSIS.[1]

BY G. M. GARLAND, M.D.

The subject of reflex neurosis is one of great interest, and the cases which come under this grouping, exhibit such diversity of phenomena and such excentricities of behavior that they are always fascinating to the observer. The following cases presented themselves at the Carney Hospital, and were there treated during my service in the summer of 1885. They appear to me to be worthy of record.

Case I. M. I. D., merchant, aged fifty-eight, entered the hospital on July 7, 1885. He had been suffering for six weeks with severe supra-orbital neuralgia on the right side. The pain was not continuous, but seized him at frequent intervals every day. Each individual attack was of short duration, but the severity was so great and the patient's dread had become so exaggerated, that he was completely unmanned. He had lost flesh, strength and appetite, and he was nervous to an extreme degree. He had been obliged to give up his business, and he emphasized the apprehension with which he awaited each attack. His tongue was heavily coated and his bowels were constipated.

Upon questioning, it was learned that the patient had had an attack of neuralgia in the same spot three years previous. That attack was of short duration, however, and had never troubled him until it began at this time. He was a man of free habits as regards food and drink. He had always enjoyed good health up to last April, when he had pneumonia, which ran an ordinary course and terminated by complete restoration. His neuralgia began within a few weeks after his recovery from the pneumonia. His face presented a striking contrast between a high color on the cheeks and a zone of waxy pallor round the eyes.

Physical examination revealed the following facts: His heart, lungs and kidneys were sound. There was no tenderness or swelling over the right supra-orbital region. His eyes were normal in appearance, and a later ophthalmoscopic examination by Dr. Derby, revealed merely a slight hypermetropia, which was fully compensated by the glasses which he wore. Nothing abnormal was found in his nostrils or mouth. On opening his mouth, however, to exhibit his teeth, he excited an explosion of pain. The right eye closed, tears ran from it and the lids trembled convulsively. The face flushed and the mouth was drawn toward the painful side. This attack lasted from one-quarter to one-half a minute. The patient then stated that he could produce those attacks by certain movements, which he avoided as much as possible. Chewing his meat at table; drawing his shirt over his head and certain other acts would start the pain. The examination of the ears was next in order, and these were found packed with hardened wax. The right ear was so tightly plugged that it required nearly an hour of syringing before the mass was dislodged. The left ear was cleansed in a few minutes.

The fact that the patient could explode attacks of nervous force at will, by the movement of parts remote from the seat of the pain, led me to the belief that there must be a mechanical cause for the pain, and that I had discovered this cause in the impaction of the right aural canal. Accordingly, I stopped all the quinine and other powerful neuralgic medicines which he had been taking, and gave him simply one-twentieth of a grain of podophyllin before each meal to stimulate his digestive secretions.

The removal of the wax caused no pain or discomfort during the operation, and it was followed by an absolute cessation of the neuralgia for eleven days. Once or twice during these eleven days the patient reported a peculiar sensation over the right side of his forehead. It was not pain, but a sort of twitchy feeling in the skin. This aroused his apprehension again, but he was calmed by encouraging words and was told that time was required to cool the stove after the fire was out. On July 17, he sat and read in the sun for some time, and then experienced a mild attack of neuralgia. The pain differed from his previous attacks in that it was slight, and it persisted for ten or fifteen minutes. The house physician, Mr. Gleason, applied galvanism to his forehead, and this quickly relieved him.

Since that day he has had no other attack of pain. Occasionally he has felt the twitching of the skin, referred to above, and to relieve this, galvanism was applied eight or ten times. After leaving the hospital the patient took a trip to Europe, and has now returned to his business in perfect health.

There are several interesting points in connection with this case. The first is to trace out the nerve circuit between the ear tube and the supra-orbital region. Dr. Hilton shows in his work on "Rest and Pain," that the "upper and anterior part of the external ear and the auditory canal derive their sensibility from the fifth cerebral nerve," so that these portions of the ear are thus included in the sensory circuit with the forehead, temple, face, eyes, nose, teeth and tongue.

The entire posterior surface, and the anterior surface of the pendulous portion, of the ear are supplied by branches from the second cervical nerve.

The presence of wax in the ear tube seems a slight cause for so much distress, and yet if one will put his finger in his ear while making masticatory movements of the lower jaw, he will see that the wall of the canal is thereby moved in a forcible manner. Moreover, the history of a previous attack of neuralgia in the same region would lead one to assume an exaggerated susceptibility of the right supra-orbital nerve. The future history of this nerve will be interesting.

The gradual cooling down of the excited nerve after the removal of the irritating cause was also an extremely interesting phenomenon. For a number of weeks the patient complained of the twitching feeling described above, and such sensations always aroused his apprehensions.

Case II. This case exhibits a reversal of the nerve currents as compared with the previous one.

Miss C. P., aged thirty-two. Entered the hospital June 18, 1885, with the history of a sore mouth since the preceding Friday, together with anorexia and vomiting. The mouth presented the familiar signs of mercurial salivation, with swollen gums and ulcerations. The patient complained of a sharp pain immediately behind the ears. A suitable mouth wash was prescribed and her gums rapidly improved. My term of service beginning in July, the previous treatment was continued until July 13, when my attention was especially attracted by a look of distress on her face,

[1] Read before the Section for Clinical Medicine, Pathology and Hygiene of the Suffolk District Medical Society, December 9, 1885.

and by her complaints of a severe ear-ache on the left side which prevented sleep and was wearing out her strength. She said her ear had ached more or less from the time of entering the hospital, but it had grown much worse of late. In examining the ear nothing abnormal could be discovered outside or inside, and there was no tenderness to touch or upon percussion over the mastoid process. Between the anterior edge of the left steno-mastoid muscle and the posterior edge of the ramus of the jaw there was a small spot tender to pressure.

The mouth was next examined. The gums were everywhere healed, except around the left wisdom-tooth. Here the mucous membrane was swollen and pushed forward so as to conceal more than half of the tooth. On lifting this swollen tissue an ulcerated surface was exposed which was very tender to the touch.

A small piece of lint, powdered with iodoform, was inserted between the gum and the tooth, and this constituted the entire treatment. Within two days the gum had receded almost to its natural position. The ear-ache was fast disappearing, and the patient could sleep. On the third day the dressing was omitted by mistake and the pain and sleeplessness returned. The lint was resumed. In two days more the ear-ache was entirely gone, and the patient was discharged well at the end of a week.

CASE III. M. P., aged sixty-eight, entered the hospital June 10, 1885. Had been a sailor and fisherman for years. Ten months ago he contracted a cold and had been troubled with cough and dyspnœa since then. He is frequently awakened suddenly at night and is obliged to sit up gasping for air. During the day he has occasional paroxysms of severe dyspnœa, and his breathing is habitually rapid and labored. His face wears a distressed, weary look. Slight movements cause distress for breath, and he walks about with difficulty. The expectoration is a greenish-yellow, occasionally streaked with blood.

Physical examination revealed sibilant and sonorous râles over both chests, front and back. The inferior boundaries of the lung reached lower than normal, showing emphysematous enlargement. There were no signs of any pulmonary consolidation. Twenty years ago the patient's nose was bent toward the right side by a blow from a ball. Since the beginning of his cold he has noticed that he could not breathe through the right nostril.

From the date of his entrance until July 6th, the patient was treated by various remedies addressed to his cough and to his asthmatic breathing, but no relief had been granted him. On July 6, I made an examination of the patient and found that his right nostril was packed with polyps. These polyps were four in number, large and firm in consistency. After two of them had been removed the patient experienced decided relief from his suffering and slept with comfort. This improvement was still more increased after the removal of the remaining polyps at a later sitting.

All medication directed to his cough was stopped, and he was given some soda powders for his stomach, and an occasional laxative.

The record for July 29, states that the moist râles heard at the previous examination had disappeared. Only a high-pitched sibilant râle could be heard occasionally at the left apex. On violent respiration a few wheezy râles could be heard over the lowest part of the lung in front.

During August, cocaine and glacial acetic acid were applied occasionally to the lower turbinated bones in both nostrils. No other treatment has been employed since then, and within a few days the man reported himself to me in excellent condition. He works about the hospital, goes up and down stairs at will, and breathes with ease. Rarely he has an attack of asthmatic breathing at night.

CASE IV. This was a peculiar case of laryngeal neurosis, which I was unable to trace to any local cause.

M. A. G., aged thirty-nine, unmarried, entered the hospital on September 8th. She has always been a hard worker, but remarkably healthy. Last December after exposure to cold, she began to cough. There was no expectoration then or at any time since. She soon grew somewhat hoarse. This symptom varied at first but finally increased in intensity until she could speak only in a whisper, and this aphonia has persisted up to the time of treatment at the hospital. The cough was of a distressing, barking character, and persisted during all her waking hours at the rate of twelve to eighteen or twenty times per minute. On retiring at night she would lie and cough for an hour or two before she could go to sleep. The cough began by an audible sharp inspiration as if the diaphragm contracted spasmodically, and this was followed by one or two loud expiratory barks. The patient's hands and feet were restless, but exhibited no choreic movements or trembling. Patient says she has lost forty pounds of flesh since she began coughing. Her appetite is poor and she complains of a dull, aching pain at the left side of the back after coughing.

A careful physical examination was made. There was no tenderness or tumefaction about the larynx. The cords were slightly reddened, but were not paralyzed. The throat and pharynx were considerably reddened by the rasping cough. The lungs, heart, kidneys, ovaries and womb were normal. The bowels were constipated but yielded readily to laxatives. Inasmuch as nearly every strong tonic had been tried upon the woman during the months of her affliction without any apparent benefit, it was thought advisible to try the effect of an ice-bag upon the spine. Accordingly on September 10th, the bag was applied for two hours. On the next day and thereafter it was applied for four hours daily.

The hospital record, kept by Mr. Gleason, reports the following progress:

September 13. Patient coughs only when excited or nervous, and then only at long intervals. The cough is no longer loud and barking, but is more like a clearing of the throat. She goes out to walk daily.

September 16. The cough has entirely ceased and patient can use her voice a little. Her appetite and general health are improving.

September 19. The voice is growing louder and clearer every day. No return of the cough.

September 29. Patient is able to talk in an ordinary tone without any hoarseness. Her weight has increased several pounds. Discharged well.

In addition to the ice-bag, the following pill was given three times daily to stimulate the stomach:

℞	Acid. Arsenios	gr. 1-80
	Podophylli	gr. 1-20
	Quin. Sulph.	gr. j
	Strychniæ Sulph.	gr. 1-80
	M	

and the patient also took one teaspoonful of malt after each meal. Considering the large doses of strychnine

and quinine which the woman had previously taken without avail, her improvement at the hospital would seem to be largely due to the influence of the spinal ice-bag.

THE ETIOLOGY OF RACHITIS.[1]

BY H. C. HAVEN, M.D., OF BOSTON.

ALTHOUH we can hardly accept Jenner's statement that "Rachitis is the most common, the most important, and in its effects, the most fatal of the diseases affecting children," as holding true in this country, it is yet sufficiently common to make its prevention of great importance to the public health. It is, typically, a preventible disease — so far as serious results to the individual are concerned — if proper treatment is instituted early enough. It might, probably, be absolutely prevented, if we knew the ultimate causes.

My purpose is to briefly present the statistics I have gathered as to the effect of the commonly-accepted causes of rachitis on its production in this city.

During the past three years, at the West End Dispensary for Children, there were in attendance —

Total number under 7 years	1516
" " of rachitics	75
Percentage of rachitics	4.94
Total number of colored under 7 years	90
" " " " rachitics	38
Percentage of colored rachitics	42.79
Total number of foreign ancestry under 7 years	340
" " " " " rachitics	20
Percentage of rachitis of foreign ancestry	5.88
Total number American ancestry under 7 years	114
" " " " " rachitics	4
Percentage of rachitics of American ancestry	3.50
Number of ancestry unknown	973
" " " " rachitics	10

RACE.

Classifying the rachitics as to race, we find, of the number where it is known: Colored, 38; Foreign, 20; American, 4. Of the 20 rachitics of foreign ancestry, (Provinces included), there were: Portuguese, 3; Italian, 2; Irish, 2; English, 2; French, 1; Nova Scotia, 2; Russian, 1; German, 1; of mixed parentage, both foreign, 4; of mixed parentage, father American, 2; of mixed parentage, mother American, 1.

FEEDING.

Breast alone till 3 months,	308.	11	rachitics or	3.57 pr.ct.
" " " 6 "	295.	7	"	2.37 pr.ct.
" " " 9 "	137.	10	"	7.29 pr.ct.
" " " 12 "	200.	7	"	3.50 pr.ct.
" " over 1 year	60	3	"	5.00 pr.ct.
Breast with other food till 3 months,	74.	5	rachitics or	6 75 pr.ct.
" " " " 6	43.	2	"	4 65 pr ct.
" " " " 9	83.	3	"	3.66 pr.ct.
" " " " 12	477.	9	"	1.04 pr.ct.
" " " " over 1 yr.,	381.	17	rach. or	4.46 pr.ct.
Artificial feeding only,	119.	13	rachitics or	10 85 pr.ct.
Number where food not known,				286
" " " " "			and rachitic,	3

These figures need, of course, a further analysis to make them of much value, but they show, I think, very strongly, that other factors than food are in this series of cases, the original or exciting causes of rickets.

Having noticed the frequency of rachitis among the colored in this series — and I have observed this in the attendance at other dispensaries — let us analyze the feeding of the colored children to see if, so far as they are concerned, the dietetic factor is an important one This was as follows:

Breast without other food till 3 mos.,	18.	7	rachitics, or	38 88 pr.ct.
" " " " 6 "	8.	3	"	37.50 pr.ct.
" " " " 9 "	5.	4	"	80.00 pr.ct.
" " " " 12 "	9.	4	"	44 44 pr.ct.
Breast with other food till 3 mos.,	7.	1	rachitic, or	14 28 pr.ct.
" " " " 6 "	4.	1	"	25 00 pr.ct.
" " " " 9 "	3.	1	"	33.33 pr.ct.
" " " " 12 "	16.	8	"	50.00 pr.ct.
" " " " over 1 yr.,	27.	12	"	44.44 pr.ct.
Artificial feeding only,	16.	6	rachitics, or	37.50 pr.ct.

I recognize the objection, that these statistics are too small to have great weight, but I cannot but think they are sufficiently numerous to show that at least the dietetic factor is not an important one in producing rickets in colored children in Boston; the per cent. of all rachitics among all colored is only a little less than the per cent. of colored rachitics in the artificially fed from birth. And in this series of cases, moreover, many colored children are not counted as rachitic where they only showed slight bone changes. Since December 1, 1884, about the time I began to carefully note any evidence of rickets, the total number in attendance under seven years has been 495 and 52 colored, or 11.5 per cent. Of the 52 colored, twenty-five only were non-rachitic, and 27 rachitic, 51.9. This per cent. even is too small, however, I am very sure, as sometime in the hurry of examination, I have neglected any record, as some of my charts remind me. The only question in regard to the dietetic factor, yet to be spoken of, is this: is the milk of colored mothers, otherwise healthy, as good an article of diet as the milk of the other races? I have no reason to doubt it or affirm it, except that in many of the cases there is no evident failure of nutrition on the part of the child. I hope later to present some analysis of the milk of women nursing rachitic children.

Assuming then, the preponderance of rachitis among the colored race in Boston, and granting the effect of the diet they receive not to be a marked one, at least, as I think we are justified in doing, the question arises as to what other cause may be acting, peculiar not to any racial dyscrasia, but resulting from racial or acquired character and habits; that is, are the quarters of the city in which they live more densely crowded; are the tenements they inhabit more damp and cold or having less sunlight; are their habits of caring for children, especially as to taking them out of doors, different from those of the equally destitute of other nationalities? I can only give my opinion, that all these questions must be answered in the negative. I have no positive information, and hope I may obtain some from others to-night. My experience has been, that the colored are more lavish in expenditure for food and rent than other poor, taken as a class, that in equal ways their table is better equipped and the food better cooked. As for the airing of the children I do not see how they could be taken out *less* than the children of the Irish poor, until after they can walk; after that time I have noticed no difference.

Another question must be considered. Are one or both of the parents less healthy than the average white of same social condition? If they are, this may be considered as a causative influence, transmitted but not acting through direct heredity.

Of the 33 colored rachitics, whose family history is known, both parents *said* to be healthy in 21.

Mother healthy in 4 cases; father dead in 3; 1

[1] Read before the Section for Clinical Medicine, Pathology, and Hygiene, of the Suffolk District Medical Society, December 9, 1885.

Bright's, 1 phthisis, 1 rheumatism; in 1 father had cough every winter, well in summer.

Father healthy in 5; mother died in 1 of phthisis; "never strong" in 2; "married at 13" in 1; rheumatic in 1.

In 2 cases there was phthisis in father, and asthma and rheumatism respectively in mother; in 1 father had phthisis and mother died in confinement.

Of 31 rachitic white, whose family history was known, parents said to be healthy in 23.

Of the 8 remaining, in 3 father was healthy, mother had chorea, rheumatism and measles at birth of child respectively.

Mother healthy in 3; father had kidney disease, arsenical poisoning, and "not strong."

Father died of phthisis in 1, with mother not strong; father rheumatic in 1, and mother healthy excepting catarrh which had destroyed septum, specific.

No history of syphilis in any, nor have I seen any rachitic symptoms in a number of confessedly syphilitic children.

In this comparison we see not much difference, but of course the statements of the parents are of comparatively little value; I think, undoubtedly, in this climate the average of health is less in the negro than the white native or immigrant from the north of Europe. How much lower, if any, it is, than that of the immigrant from France or Italy, I have no means of forming an intelligent opinion.

In any case I do not believe there is enough difference to account for the marked preponderance of rickets on the ground of the parent's health, though it may, and undoubtedly does, exert an influence.

What then is the determining cause of this frequency? I see no source of any such cause but what must arise from a peculiar predisposition to this form of disease in the colored. Is this to be referred to any anatomical basis, as for instance, are the arteries of this race larger or wider? I know of no such peculiarity. And again, if the statements made to me by lay observers are true, that the disease is the less common the farther South we go, that would preclude any such hypothesis being entertained. I can find no medical testimony as to its relative frequency. It is stated, however, to be practically unknown in tropical regions. In the writings on African explorations, I have met no notice of such a disease having been noticed among the young, as it would probably have been had it existed. Again, I have been told by lay observers, that the disease is the more frequent and severe, the purer is the African blood, and I have found this to be true in my experience in this city.

The only hypothesis I can suggest to myself to account for the relative frequency of rachitics in the colored race is that as their natural habitation is much farther south than North America, the effect of the climatic conditions, which are recognized as having a causative effect in rachitics, is exaggerated; the purer the African blood the more will the effect be noticed. In other words, there is an inherited necessity for heat and sun which our climate does not satisfy, and rickets results. It is striking in this connection to notice of the white rachitics of a foreign ancestry, the majority are born of parents coming from the south of Europe, where the disease is relatively rare, rather than of parents from England and North Germany, where the disease is rife.

I have presented these facts principally for the purpose and in the hope of eliciting criticism and information which shall enable me the better to make a more thorough study of the subject than I have had the time to do in this sketch.

THE PULMONARY COMPLICATIONS OF TYPHOID FEVER.[1]

BY F. B. HARRINGTON, M.D., BOSTON, MASS.

TYPHOID FEVER COMPLICATED BY CIRCUMSCRIBED PNEUMONIA.

CASE I. Miss G., twenty-five years old, was seen November 10, 1884. The temperature was 104.5°, the pulse 108 and the respiration 32. For five days she had been feeling poorly, and had suffered with headache and nausea. She had a chill and there had been some cough. The tongue was heavily coated. The bowels were regular. On examining the chest a region of dullness was found at the base of the right lung in front. This dullness did not extend above the nipple, and was not marked. In the back it was wanting. Over this area moist râles with slightly prolonged expiratory sounds could be heard. Before the present illness there had been no cough.

The abdomen was slightly tympanitic, and there was slight tenderness in the left iliac region.

November 11th. On the following day the temperature rose to 105.2°. Diarrhœa and some cough.

November 12th. Temperature 104.9°. Diarrhœa and cough.

November 13th. The temperature 104.7°; The cough was slightly increased and the expectoration, previously viscid mucus, became rusty in color. The dullness had increased slightly in intensity though not in area. Fine and coarse râles were abundant and respiration was somewhat bronchial. There was some deafness. For several days the patient seemed to improve and the temperature fell to 99.2° on the 16th.

The rusty expectoration disappeared and the cough became less. The diarrhœa continued. On the 19th she complained of pain in the region of the rectum, and a poultice was applied to a spot of tenderness.

November 22d. A large ischio-rectal abscess was opened by incision, and the rush of pus, and gas showed that it had perforated the rectum.

From this time on the patient gradually grew worse.

November 25th. There was mild delirium, which changed two days later to active delirium. The pulse was gradually becoming weaker. There were abundant râles in both bases behind.

The abscess continued to discharge.

December 2d. The patient died. For two or three days before death there had been an increasing dullness at the bases of both lungs, due to the constantly increasing weakness of the heart.

TYPHOID FEVER WITH HÆMOPTYSIS DURING CONVALESCENCE.

CASE II. Mr. C., of phthisical family, twenty-eight years of age, after the usual preliminary symptoms of typhoid fever, went to bed January 22d, with headache, coated tongue and pain in the right iliac fossa. Diarrhœa began three days later. The patient went through a mild attack of typhoid, and a little over three weeks after the attack the pulse became normal with a slight evening rise.

[1] Read before the Section for Clinical Medicine, Pathology, and Hygiene, of the Suffolk District Medical Society, December 9, 1885.

The pulse was now 96 and weak. The temperature never rose above 103°. Considering the moderate temperature and the lack of exhausting symptoms there was very decided prostration. About this time a slight cough developed, but gave little trouble, and the chest was not examined. The improvement in the patient was very slow. At the end of a month the patient sat up for a short time, but was very weak. Two months after he was attacked he was still unable to be about. His cough had become more troublesome. On examining the chest nothing abnormal was found. The pulse was rapid and weak. This was March 17th. Nine days later I was called and found the patient suffering from a profuse hæmorrhage following a fit of coughing. At the left apex I found fine and coarse râles, with dullness and slightly prolonged expiratory murmur. Two weeks later there was a second though less copious hæmorrhage. A month later the patient had so improved that he was able to walk out. The cough continued and still exists, though the man is now about his business.

No disease is so prolific of complication as typhoid fever. No structure of the body escapes entirely. No function is safe. Rupture of muscles, necrosis of bones, abscess of the liver, gangrene of the lungs, loss of sight, aphasia and insanity are but a few of the rarer complications. There are two important causes for this multiplicity of lesions. The first and most important cause is the duration and severity of the pyrexia. The second cause, less demonstrable, is the specific poison of the disease. The continued high fever causes parenchymatous changes in all the organs. Hoffmann [2] found only 56 cases out of 161 autopsies in which the heart muscle was normal or nearly so. The power of the heart is greatly lessened. The circulation is impaired and the nutrition of the parts suffers. The respiratory complications in typhoid fever are numerous. Out of 111 autopsies, from Biermer's clinic, the respiratory apparatus was perfectly healthy in only two instances, according to de Cérenville.[3] Bertz[4] makes a report of 899 cases of typhoid fever from Ziemssen's clinic from 1878 to 1883. Among a large number of complications were the following pulmonary, or intimately associated with pulmonary lesions: —

Typhoid fever in Ziemssen's clinic from 1878 to 1883. Beetz: [5] —

Bronchitis,	59
Croupous Pneumonia,	41
Catarrhal "	14
Hypostatic "	10
Hæmorrhagic Infarction,	2
Pleurisy with Effusion,	22
Old Pleuritic Adhesions,	2
Pulmonary Phthisis,	19
Miliary Tuberculosis,	2
Pleuropneumonia,	4
Pulmonary Emphysema,	4
Gangrene of the lungs,	1
Apex Induration,	6
Abscess of Lung,	2
	188 out of 899 cases.

[2] Untersuchungen über die pathologisch-anatomischen Veränderungen der Organe beim Abdominal-typhus.
[3] Nouveau Dictionnaire de Med. et de chir. 36, 590. G. Homalle.
[4] Deutsch. Archiv. f. k. Med. Leipzig, 1885. xxxvii, 308.
[5] Deutsch. Archiv. f. k. Med. Leipzig, 1885. xxxvii, 308.

A *report of* 250 *autopsies* after typhoid fever at Basle. *Hoffmann*: [6] —

Splenization,	35
Lobular Pneumonia,	38
Lobar Pneumonia,	18
Pleurisy,	20
Pneumothorax,	1
Hæmorrhagic Infarction,	15
Miliary Tuberculosis,	4

Goldtdammer, in a report of 783 cases occurring at Berlin in 1874, 1875 and 1876,[7] says bronchitis was wanting in only the lightest cases. Hypostatic congestion was found in 40 of those who recovered, and in about one-half of those who died. (There were 130 deaths.)

Lobar pneumonia existed in 11 cases, only one of which recovered. Embolic pneumonia was the cause of death in five cases. There were 13 cases of pleurisy, eight of which died. There was one case of phthisis.

Hoffmann, in a report of 250 autopsies at Basle, says,[8] that bronchial catarrh extending to the finer bronchi almost always accompanied the early intestinal changes. He found: —

Splenization,	35
Lobular pneumonia,	38
Lobar Pneumonia,	18
Pleurisy,	20
Pneumothorax,	1
Hæmorrhagic Infarction,	15
Miliary Tuberculosis,	4

Two of the eighteen cases of lobar pneumonia occurred at the outset of the disease, and will be referred to again.

I have included under the heading "Pulmonary Complication," not only true pulmonary lesion, but also lesion of parts intimately associated, as the bronchi and pleura.

The signs of pulmonary lesion occurring with typhoid fever are usually marked to a greater or less extent. Characteristic expectoration in pneumonia is often wanting. Cough in bronchitis is frequently absent.

When respiratory lesions are epidemic, as might be expected, there is an increased amount of complication with typhoid fever.

Children are found to be more subject to these complications than adults.

As has been already said, bronchitis is rarely wanting in typhoid fever. Liebermeister says: [9] "Catarrh of the smaller bronchi is so frequent in typhoid fever, that a certain diagnostic significance may be attached to its occurrence." It may be so slight as to cause little or no trouble, or may be, and especially in children, a very serious complication.

One of the chief dangers of this bronchitis is that owing to the great general weakness, the secretion may not be thrown off, and atelectasis and broncho-pneumonia may result. Lobular pneumonia is a common occurrence in typhoid fever. A. Weil,[10] owing to the lack of signs, considers it very difficult to differentiate the various forms of consolidation occurring in

[6] Untersuchungen über die pathologisch-anatomischen Veränderungen der Organe beim Abdominal-typhus.
[7] Deutsch. Archiv f. k. Med., xx, 52.
[8] Loc. cit.
[9] Ziemssen's Cyclopædia.
[10] Zm. Pathologie und Therapie des Typhus Abdominalis, et cet. Leipzig, 1885.

typhoid fever. He is often unable to determine clinically, whether the consolidation be due to atelectasis, to hypostasis, to lobar or lobular inflammation, or, as often happens, to a combination of these conditions. *Lobular pneumonia* is the most common form of pneumonia occurring in typhoid fever. It rarely begins with a chill, but there is almost always an increase in the temperature.

Lobar (*croupous*) *pneumonia* sometimes occurs during convalescence. At this period it does not differ in any way from an ordinary attack of that disease. There is usually the sharp attack with chill and sudden rise of temperature, dyspnœa, characteristic expectoration and râles.

When croupous pneumonia complicates typhoid fever of the second and third weeks, during the height of the disease, many of the ordinary characteristics are wanting. According to Homolle,[11] the chill is often wanting; there may be no rise in temperature, pain is absent or of short duration, characteristic expectoration and râles are seldom present and the cough is infrequent.

Lobar pneumonia, occurring during the first two weeks of typhoid fever, is the subject of much discussion. It sometimes occurs as a simple complication, at other times there seems to exist a kind of transition form between the two diseases.

Lépine,[12] in his article on "pneumonia," expresses his belief in a form of pneumonia due to the local infection of typhoid fever, in which the pulmonary symptoms are the noticeable ones, and the abdominal symptoms are slight. This he calls pneumo-typhoid.

Hoffmann [13] classes two of the 18 cases of lobar pneumonia which he found as pneumo-typhoid. A short history of one of these cases will illustrate the disease.

Mr. E., twenty-one years of age, began to suffer with headache, September 4th, and had nosebleed. September 13th went to the hospital. The breathing was labored, there were râles in both lungs and dullness and bronchial breathing in the lower right lung. On the 18th the patient died. On autopsy, croupous pneumonia of the right side and infiltration of Peyer's patches and ulceration of the ilium were found. Had the latter lesions been absent, Hoffmann would have considered the case one of pneumonia with typhoid symptoms. [Typhoid pneumonia. Flint.]

Lonquet [14] thinks that there are cases of pneumo-typhoid in which there are no intestinal symptoms, and in which on autopsy no intestinal lesion can be found. He believes that typhoid poison in severe cases makes its entrance through the lungs or has its seat there. E. Wagner,[15] in concluding an article on the subject of pneumo-typhoid, says that, with our present knowledge, it is impossible for us to decide the exact neurological position of the disease. Exact knowledge of the specific germ of the disease will clear this doubt.

Cardiac weakness, so common in typhoid fever, is a direct cause of several of the pulmonary complications. These complications are in no way peculiar to typhoid fever, but may occur in any asthenic fever. They are more common in typhoid fever on account of the duration and intensity of the fever.

Passive congestion of the lungs often occurs as the result of cardiac weakness. This passive congestion may lead to œdema. The passive congestion is most likely to occur in dependent portions of the lungs. It may be unilateral if the patient for any cause has assumed a position upon one side, but when it occurs it is usually bilateral.

This form of congestion has been called hypostatic. When the parts, through œdema, become devoid of air, an appearance resembling the spleen may be seen. This is splenization. Another result of feeble action of the heart is the formation of thrombi. These becoming detached, may cause embolic infarction of the lungs. Emboli may arise from some septic source. Goldtdammer [16] reports five deaths from embolic pneumonia among 783 cases of typhoid fever. The origin of the emboli was in one case the right side of the heart, in another an old perityphlitic abscess, in a third case an abscess of the thigh. The origin in the other cases was not discovered. These emboli may cause gangrene of the lungs, and the pulmonary tissues breaking down, pneumothorax may result. Embolism of the pulmonary artery and instant death is not a rare occurrence.

Like pneumonia, pleurisy in typhoid fever may give little indication of its presence. It occurs frequently, but unless extensive, it is very apt to escape notice. Empyema also occurs, and sometimes independently of pneumothorax. Acute miliary tuberculosis sometimes occurs as a sequel to typhoid fever, but probably not from any direct cause. Phthisis also develops sometimes as a result of the non-absorption of secretions which have not been thrown off during the period of great prostration.

Hæmoptysis, according to Homolle,[17] occurs during typhoid as the result of a hæmorrhagic infarction. It may also occur as a symptom of concurrent phthisis.

The extreme exhaustion of many typhoid cases makes the frequent examination of the patient more difficult. For this reason and from the lack of symptoms many of the above complications undoubtedly exist at times and escape unnoticed. Given a severe case of fever with high temperature and marked abdominal symptoms, diarrhœa, abdominal distension and tenderness with more or less stupor, is the frequent examination of the patient's chest, requiring moving of the patient, necessary or desirable? Flint advises the frequent change of the position of the patient with a view to prevent hypostasis. This certainly is desirable. Patients who have kept a fixed position for a long time will often give signs of hypostasis, which will disappear on assuming another position. If this plan be carried out, there will be no additional fatigue to the patient from the application of the stethoscope. By its use we may learn more of the real strength of the heart than the pulse or the heart sounds could give us, and we may get an earlier warning of the necessity for increased efforts to sustain the heart's action.

Antipyretic measures undoubtedly decrease the frequency and severity of pulmonary complications.

Liebermeister [18] reports concerning 1,743 typhoid patients, about one-half of whom were treated by cold baths, that the number of cases of pulmonary consolidation was reduced from 14.4 per cent. to 10.9 per cent. and that the mortality of these cases was reduced from 54 per cent. to 34 per cent.

[11] Loc. cit.
[12] Nouveau Dict. de Med. et de Chirurg., xxviii.
[13] Loc. cit.
[14] L'Union Méd., xxxviii, 709.
[15] Deutsch. Archiv. f. klin. med., 1884, xxxv, 191.
[16] Loc. cit.
[17] Loc. cit.
[18] Loc. cit.

RECENT PROGRESS IN OPHTHALMOLOGY.

BY O. F. WADSWORTH, M.D., AND MYLES STANDISH, M.D.

OCULAR AFFECTIONS IN MULTIPLE NEURITIS.

Gnauck [1] gives the results of observation of fifty cases of multiple neuritis in the Charité Hospital. In thirteen patients the external ocular muscles were affected; in nineteen the pupils, in four of these the pupils being immobile.

It is, however, with the disturbances of vision and the ophthalmoscopic condition of the papillæ, that the author has chiefly concerned himself in this paper. Twenty-eight of the fifty patients had disturbance of vision. Eight of these showed nothing but a certain degree of amblyopia. Five had decrease of vision, and contraction of the field. Of the remaining fifteen, some manifested these defects, but all presented alterations in the fundus. The latter changes consisted in total atrophy of the discs, with blindness; partial atrophy, particularly of the temporal halves of the discs; or hyperæmia of the discs and neuritis optica. The defects in the field of vision were, in the majority of instances, concentric, and combined with narrowing of the field for colors; in some, there was a central color scotoma. The peculiarity was noticed that the form of the field sometimes changed greatly within a short time, or the defect even entirely disappeared.

Complete atrophy of the optic discs has been but rarely observed in multiple neuritis. Gnauck gives two cases. A man, of forty-two years, noticed, in February, cloudiness of sight, which increased rapidly. By the end of May, he was totally blind. Only at the beginning of May did other symptoms of disease of the nervous system appear. In June both discs were completely atrophic.

A girl, of twenty-five years, began with ptosis of her right eye. When, after some months, the ptosis had improved, the right eye was nearly blind. It was only at the end of two years that other symptoms of disease manifested themselves. After three years the left eye began to fail, and in the fifth year both discs were wholly atrophic. It is noteworthy that in both these patients the ocular affections were the earliest symptoms of the disease. The same was the case with a third patient, whose history offered also other points of special interest.

A man, of twenty-eight years, suffered from progressive failure of sight for four months before other disturbances of the nervous system appeared. After six months, there was a central scotoma for red and green with no peripheral contraction of the field, precisely the picture of an amblyopia ex abusu, but no abuse of tobacco, alcohol, etc., could be discovered. Two months later, further decrease of central vision with scotoma for blue also. After another two months, sight was decidedly improved, but an atrophic discoloration of the temporal halves of the papillæ was visible. Still another two months, and the central scotoma had vanished, but the palor of the outer halves of the discs remained. As in this case, so generally where there was partial atrophy of the discs, it appeared as a sharply-defined alteration of the outer half, or at least, the inner half was much less affected than the outer.

In three cases, there was marked hyperæmia of the papillæ, or neuritis optica, which left the disc either of normal appearance, or atrophic. Gnauck considers the atrophy of the opticus as often of the greatest importance in making the differential diagnosis between multiple neuritis and neuroses, especially hysteria. He is inclined to believe that the atrophy of the disc, at least when particularly pronounced in the outer half, is due to optic neuritis, either intra, or retro-bulbar.

Uhthoff [2] reports three cases of multiple neuritis, in two of which there was optic neuritis, and in the third an atrophy of the disc, which appeared to have resulted from neuritis. From these cases, and those of Gnauck, he concludes optic neuritis must be of relatively frequent occurrence in multiple neuritis, and this view is strengthened by the fact that he has observed the neuritis in this disease to subside and give place to atrophy in a comparatively short time. It might, therefore, more readily escape discovery.

The manner in which the loss of sight comes on, its character, and the occasional recovery, together with the frequently partial and non-progressive atrophy of the disc, all seem to him to point to an inflammatory origin, rather than to a simple degeneration.

STRETCHING OF THE SUPRA-TROCHLEAR NERVE IN GLAUCOMA.

Brailey [3] read a paper on this subject at a meeting of the British Medical Association. The operation was brought forward by Badal, in 1882, for ciliary neuralgia, and he also suggested that it might be effective in certain forms of glaucoma, and even in sympathetic ophthalmia. Abadie followed by stretching the nerve in a case of glaucoma, where the eye continued hard and painful after sclerotomy and iridectomy. He stretched the nerve till it ruptured, and then removed a piece of it one cm. long. Tension sank in three days to normal, vision slowly and slightly improved, and the pain was relieved. He has since then reported cases where stretching was advantageously combined with iridectomy or sclerotomy, even in such an unpromising disease as congenital hydrophthalmos. But he expressly states that he does not think nerve-stretching can yet supplant iridectomy or sclerotomy; it should be reserved for intractable cases which have resisted all other measures. He suggests its probable utility in congenital hydrophthalmos, and also in glaucoma in children secondary to anterior synechia, on the ground that the loss of the eye is due to continuous traction on the nerves entangled in the scar. In glaucoma, he combines it with simultaneous sclerotomy.

Brailey has tested the efficiency of the operation to relieve ciliary neuralgia and to lower tension in six cases. In one case he stretched the supra-orbital nerve also to compare the effect.

(1) A man, aged forty-nine, glaucoma; the result of iritis following a cataract extraction five years ago. Tension slightly in excess a month after extraction, but for five weeks had been much heightened, and vision failed rapidly. Supra-trochlear nerve stretched to rupture, and four mm. excised. In three days tension had fallen from +2 to $+\frac{1}{2}$, and in six days was normal. Vision slightly improved. Pain wholly relieved

(2) A man, aged sixty-seven, *glaucoma absolutum* of right eye. Tension +3; perception of light. Sight lost gradually twenty years before; considerable pain. Supra-trochlea nerve stretched. Considerable suppuration of wound. Tension gradually fell, and ten days

[1] Berliner klin. Wochenschrift, 1884, No. 27.

[2] Berliner klin. Wochenschrift, 1885, No. 16.

[3] British Medical Journal, October 10, 1885.

later, was not more than +1. Pain entirely relieved, and had not recurred after some months.

(3) Woman, aged forty-one. Double iridectomy for glaucoma three years ago. Still some tension in each eye, with continuous pain over left brow. Eserine gave no relief. Both supra-trochlear nerves stretched. Wounds healed rapidly. Tension fell to full in right eye, and normal in left. Pain entirely ceased for a month; then both pain and tension recurred, but neither symptom quite so acute as before. Vision remained the same, 6-60 right; 6-24 left.

(4) Woman, aged sixty-three. Left, absolute glaucoma, tension +3, vision nil, some pain; right, tension +3, vision 6-12, inflammatory symptoms slight. Stretching of both supra-trochlear and supra-orbital nerves. No relief of pain, though tension fell to +1. Subsequent sclerotomy, and then iridectomy right, with result that vision remained 6-12, although tension continued +1. The other eye remained as hard as ever, and was finally removed.

(5) Man, aged seventy-five, absolute glaucoma of left eye, with severe pain. Stretching of supra-trochlear relieved pain much, but in five days it returned almost as bad as before. Eye enucleated.

(6) Woman, aged fifty-five, severe choroido-cyclitis of both eyes. As a last resort, the nerve was stretched on each side. Pain was diminished for a time, but inflammatory attacks soon recurred.

Brailey states that he intends, in future, to restrict the operation to diseases in which, on the strength of these cases, there is good ground to expect benefit; in the neuralgia of glaucoma absolutum, and in intractable cases of glaucoma generally. He is satisfied that stretching the *supra orbital* nerves has no beneficial effect on the tension, and only doubtful, at best, on the neuralgia. Stretching of the supra-trochlear, he believes, does have some influence on the tension, but it is not worth counting on, in this respect, as a remedy for glaucoma, though it is of use as an adjunct.

GLIOMA OF RETINA.—THREE CASES IN A FAMILY OF FIVE CHILDREN.

Macgregor[4] briefly records the following interesting family history: Father living, and in good health; mother died at the age of thirty-four, of "disease of the liver and heart." The left eye of the eldest child was removed when he was two years old; the tumor recurred in the stump, and also affected the right eye. The left eye of the second child was removed when the child was three months old; nine months afterward the right eye became affected, with fatal result in a few months. The third child was six years old, and in good health. The fourth child had the left eye removed when he was seventeen months old; nearly two years afterward the right eye became affected, sight was lost, the eyeballs protruded, and when, at four years of age, he was admitted to the hospital, the orbit was completely filled with a red, fleshy, pulsating tumor, which protruded more than an inch beyond its margin; death a few days later, apparently from exhaustion. The fifth child was fifteen months old, and, so far, had shown no symptoms of the disease.

PERIPHERAL ATROPHY OF THE OPTIC NERVE.

Fuchs,[5] by the examination of a large number of optic nerves, thinks he has established the anatomical fact that in the human adult, there is, as a rule, an atrophy of certain nerve-fibres. The fibres which are thus subject to a physiological atrophy, are situated: *First*, immediately beneath the pial sheath of the nerve. *Second*, about the central vessels, which are accompanied, as is well known, by a continuation of the pial sheath.

The peripheral atrophied fibres lie between the sheath of the nerve and a septum not heretofore described, which is concentric with the pial sheath. This septum, to which Fuchs gives the name *peripheral septum*, lies at a distance of 0.03 mm. to 0.06 mm. from the pial sheath. It may be either continuous and regular, or it may be divided irregularly by prolongations of the pial sheath; it is limited to the anterior portion of the nerve. In one case, Fuchs found it as far forward as the lamina cribrosa, and in the majority of cases it was found at a distance of one mm. behind the bulb; from thence, it extended backwards for fourteen to fifteen mm. This anatomical peculiarity is not represented on any of the drawings of sections of the opticus that have ever been published, with the single exception of a diagram published by Edmunds and Lawford.[6]

Fuchs does not consider it possible that this septum can be, in any way, a consequence of the degenerative process, but on the contrary, regards its existence as an essential factor in the production of the atrophy, as will be seen in what follows.

Between this peripheric septum and the pial sheath, lie the *peripheric atrophic bundles* of nerve-fibres. Here, in the adult, the substance of the nerve-fibres has disappeared, and only an empty network remains, namely, gray atrophy. This condition, anteriorly, completely envelopes the nerve, but becomes perforated more and more by healthy bundles of nerve-fibres posteriorly, until it can no longer be traced, and disappears, together with the now incomplete peripheral septum.

A central atrophy is always to be found about the central vessels. Here, the degeneration does not consist of bundles of nerve-fibres standing alone, as in the peripheral form, but of small, somewhat separated portions of bundles. It can be followed back accurately to the point of exit of the vessels from the nerve. From that point backward there is none. This central atrophy is always less marked than the peripheric, but is, nevertheless, to be found in every adult nerve.

The degeneration, central and peripheral, apparently proceeds with varying speed in different individuals. Before the thirtieth year it appears very slowly, and at the most, the bundles in which the substance of the nerve-fibres has disappeared are not numerous. Even after the thirtieth year occasionally nerves are seen in which a redness of the nerve-fibres of the peripheral bundles is the only change to be found. As a rule, however, after the thirtieth year it is well marked, although its rate of progress and ultimate extent varies in different individuals. The atrophy of the nerve-fibres which surround the central connective tissue is of the same character as that in the peripheral bundles. The degeneration which is found is a species of gray atrophy, such as Leber has described. Fat cells, such as are observed in atrophy of the nerve in cases of tabes, are never seen in this form of degeneration.

Fuchs examined more than sixty cases, of all ages,

[4] Medical Times and Gazette, July 11, 1885.
[5] Archiv für Ophthalmologie, Bd. xxi, Hft. I.
[6] Transactions of the Ophthalmological Society of the United Kingdom, 1882, 1883, plate xiii.

and concludes that the atrophy is not the result of inflammation. The fibres so affected lie in contact with the pial membrane of the sheath of the nerve in the peripheral form, and with the prolongation of that membrane about the vessels in the central form. In the periphery, the above-described peripheral septum shuts them off from the remaining portion of the nerve.

Our author concludes that the result may be due to the repeated congestion of the pial membrane, which, being filled with blood, compresses the fibres lying contiguous to it, and so causes the atrophy. In the peripheral form the bundles of fibres which lie external to the peripheral septum are at a double disadvantage, as they are compressed between the two membranes. Moreover, the lymph spaces are especially numerous beneath the pial sheath and around the bloodvessels, and they may play an important rôle in this degeneration, injuring the nerve-fibres either mechanically, through compression, or chemically, through imbibition.

The functional consequence of this atrophy would, theoretically, be an enlargement of the blind spot, since it has been shown that probably the fibres that form the most external layers of the optic nerve at its anterior extremity, supply the retina immediately about the optic disc.

RELATIONS OF THE EXTERNAL OCULAR MUSCLES TO THE VENÆ VORTICOSÆ.

Fuchs[7] has made a study of the topographical anatomy of the eye to determine whether, and if so, in what manner, a compression of the venæ vorticosæ by the external muscles can take place. He was prompted to this investigation by a statement made by Von Arlt, that such an action of the muscles during convergence produced acquired myopia through the congestion of the uveal tract. He accurately measured the distances of the points of insertion of the various muscles from the margin of the cornea. This he did in fifty-five eyes, thirty-one emmetropic, twenty myopic, and four hypermetropic.

In the case of the recti muscles, he found that while they were inserted with considerable symmetry with regard to the horizontal and perpendicular meridians of the eye, yet their distances of insertion from the margin of the cornea might vary considerably, even in the same eye. He also found that the breadth of the tendinous insertion did not correspond with the strength of the muscle. The rectus superior, the weakest of the four recti, always had the broadest insertion.

In myopic eyes, the insertions were broader than in emmetropic eyes, but were not farther removed from the margin of the cornea, which would indicate that the anterior half of a near-sighted eye is enlarged in its equatorial diameter, but not in its antero-posterior diameter.

He found that the line of insertion of the obliquus inferior made an angle of 19° with the horizontal meridian, but that of the obliquus superior of 45° with the same meridian, so that it is not correct to describe their lines of insertion as parallel, as is done in most of the text-books. The breadth of the insertions of the oblique muscles was found to be considerably greater in myopic eyes than in emmetropic eyes, which is without doubt, due to the stretching of the sclera, as these muscles are inserted far enough posteriorly to be attached to that portion of the sclera which suffers most in myopia.

The venæ vorticosæ are divided into two pairs, an upper and a lower pair. The vertical meridian divides each pair. Both pairs pierce the sclerotic posteriorly to the equator of the eye, the upper pair at a distance of seven to eight mm., and the lower pair at from five and a half to six mm. In hypermetropia they were found nearer the margin of the cornea than in emmetropia, on account of the short axis of the hypermetropic eye; in myopia, on the contrary, the distance is the same as in emmetropia, showing that the distension of the sclera in the myopic eye makes the distance between the veins of each pair greater than it is in an emmetropic eye.

The study of the relations of the venæ vorticosæ, is, of course, the objective point of the paper. With regard to the four recti, the externus and the internus never over-lap the veins, and although the superior and inferior are so placed that their edges, and sometimes their surfaces, are in close relationship to the points of exit of the veins nevertheless, this occurs so far behind the equator, that they cannot exercise any pressure on the veins. With the oblique muscles, however, the conditions are very different. The obliquus superior may be so situated as to press on the point of exit of the upper and outer vein. In hypermetropia and emmetropia, the condition was found in twenty-three per cent. of the cases, while in the remaining seventy-seven per cent., the exit of the vein was so far behind the equator as to render this impossible; in myopia, this condition is reversed, and in seventy-three per cent. of the cases pressure could be so exerted. The upper and inner could be so compressed in only a very small proportion of the cases, and these were not myopic eyes. The obliquus inferior was found to be so placed that it invariably exerted pressure on the external lower vein, but never on the internal.

In the use of the eyes for distant vision this pressure of the obliques would be constantly interrupted, and the alternate contractions and relaxations of the muscles would assist the venous flow. In continuous use of the eyes for near work, the obliques would, in a large proportion of myopic eyes, exert a constant pressure on one vein of each pair, which would certainly lead to obstruction of the circulation, and perhaps to an increase of the myopia. On the other hand, Fuchs sought in many sections of emmetropic and myopic eyes for dilatation of the venæ vorticosæ, without finding such a condition present in a single case.

[7] Archiv für Ophthalmologie, Bd. xxx, Hft. iv.

Hospital Practice and Clinical Memoranda.

A CASE OF MULTIPLE SARCOMA OF THE SKIN.[1]

BY C. A. CHEEVER, M.D., OF MATTAPAN.

On the 3d of June, 1884, I was consulted by an American lady about sixty-five years of age, for ulcers on her legs. Her history was that she had always been well until a short time before seeing me. She had never been subject to any skin eruption, sore throat, headache, or in fact, any of the indications of constitu-

[1] Read before the Norfolk District Medical Society, Dec. 29, 1885.

tional infection. She had had two children only, both of whom had attained adult age. She thought she had had the ulcers about six weeks.

Examination disclosed three ulcers, situated one on each leg about four inches below the patella, and just at one side of the crest of the tibia, and one on the right thigh, at the junction of the lower and middle thirds, and upon the postero-external aspect. The ulcers all had healthy granulations in the centre, while the edges had a grayish and glazed appearance, were indurated, and somewhat elevated.

Those on the legs were each about the size of a silver dollar, and nearly round. The one on the thigh was about twice as large and oblong; the upper part was excavated to a depth of about a third of an inch, the lower part less deep, and surrounded by indurated tissue for about an inch on each side, freely movable on the deeper tissues, and apparently about an inch in thickness.

Finding quite a number of marked varicose veins, and nothing else appearing to cause the ulcers, I attributed them to the veins, and applied suitable treatment for that condition.

July 1st. The ulcers were looking better, and one of them was decidedly healing.

July 15th, I found a new condition of affairs; an efflorescence on the legs and arms of pinkish nodules, the size of a pea, freely movable on the deeper tissue, hard and elastic, with sharply-defined margins. On the forearms, were several nodules larger than the others, which the lady said had been there for some time; these were exfoliating fine, silvery white scales, and one of them as large as a nickel, had on the centre a brownish, semi-transparent crust. I was then told that the ulcers on the legs had been preceded by similar growths.

Although I could find no history of syphilis in the family, I thought the efflorescence, taken as a whole, more nearly resembled some of the later manifestations of that disease than of any other. I then gave, in addition to iodoform externally, red iodide of mercury, gr. 1-30, and iodide of potassium, gr. 2½ t.i.d.

August 1st, I found that the small papules had increased both in size and numbers. I was also shown on the crural region of both thighs, several ulcers of the size of a silver quarter-dollar. I counted between twenty-five and thirty diseased places in all stages of development, from the pink papule to the ulcer as large as the palm of the hand.

The process of ulceration was seen to begin on the surface, and at the centre of the nodules, when they were about an inch in diameter; and under cover of a crust yellowish or greenish-brown in color, it extended toward the edges, but at the same time, the nodules continued to grow laterally, so that by the time the new growth was removed by ulceration, the remaining ulcer would vary from one and a half to three inches across. The efflorescences were scattered without order or symmetry, over both lower and upper extremities. The head was free from them, and I was told that the body was also free. There had been no itching or burning at any time; the nodules were entirely painless and not sensitive; the ulcers have given but very little pain, and that has been confined to a few of them.

Aside from the skin trouble, and a certain nervous or mental depression, she seems perfectly well; her appetite is excellent, she sleeps well, bowels regular, her color has improved, and the varicose veins have disappeared. She had, however, a marked disinclination to talk about her trouble, or to have any one know the extent of the disease; and from what I learned later, I am very certain that at no time, did I see all of the disease. The mercury salt was increased to 1-20 gr., and the iodide of potassium to 5 gr. t.i.d.

September 1st, the ulcers were all healing, except the smallest ones with the elevated ring-shaped margins of new growth, and some of these craterform rings were undergoing absorption, as were also some of the smaller nodules that had not reached the stage of ulceration. No new papules had appeared. She felt well, and thought she was getting well. The iodide of potash was increased to ten grains t.i.d.

September 25th, she still appeared to be doing well. Some of the ulcers had entirely healed, forming a somewhat soft and deeply-pigmented cicatrix covered with a moist, scaly, and yellowish crust, exfoliating in pieces as large as a little finger-nail. The nodules appeared to be undergoing absorption; no new papules had appeared, but she complained more of nervousness than before. At this time, I tried to have a consultation, but the patient was unwilling, and it was postponed; but in conversation with Dr. J. C. White, I told him of the case much as described above. He agreed with me in thinking the disease seemed more like syphilis than any other, and at his suggestion, the iodide of potash was increased to fifteen grains t.i.d.

Several of the ulcers were healing rapidly, no new efflorescences had appeared. Her appetite was ravenous. She complained now, occasionally, of swelling of the feet and ankles. The urine was examined at intervals, and found normal each time.

November 9th. One new papule had appeared on the right leg near the knee. Several tumors had disappeared from this region, while others had ulcerated and were healing.

She was not sleeping well, and as her husband believed the medicine was the cause of her sleeplessness, I diminished it one-half and added one-half drachm of fluid extract stillingia comp. to each dose.

There formed about this time on the flexor surfaces of the fore-arms about a dozen new papules, resembling in every way those first described. At this time I was shown a tumor on the outside of the left thigh of a leaden gray color and about the size of a silver dollar, surrounded by an area of red and highly inflamed skin. The gray central and evidently necrosed tissue I removed with the knife, giving no pain and causing but very little hæmorrhage. The cut tissue was pearly white, soft, quite friable, and about three-fourths of an inch thick. Underlying it I found a layer of healthy granulations from which the necrosed tissue was separated by a layer of pus. With a poultice for a few days, iodoform powder, etc., the remaining ulcer was entirely healed in a week.

December 1st. She was failing all the time in appetite, strength and sleep; on the other hand, many of the ulcers had entirely healed, and the others were healing. Quite a number of the nodules had become entirely absorbed, the others were diminishing in size. Some had been absorbed more rapidly from one side than from the other, leaving crescentic ridges; growing from one of these ridges on the right forearm was a nodule much thicker than any of the others, with a thin, red, exfoliating epidermis and several small

veins coursing over it; this was the only tumor that showed a special fungating tendency, and was the one that was later on submitted to the microscope.

Some of the tumors had enlarged and become fused to neighboring ones, although for the most part they were discrete.

Two more large tumors on the leg had necrosed, and been removed. She was now reported as being delirious at night, and as sleeping only about two hours. The bromides have no effect.

December 16th. To-day Dr. J. C. White saw the patient with me. He said that from the appearances and history alone one could not tell positively if the disease be syphilis or sarcoma cutis, that some of the lesions if not accompanied by the others would be considered characteristic of syphilis, while considered as a whole the disease much resembled sarcoma, and that the microscope would furnish the only means of making a positive diagnosis. Still, from the fact that she had been so long on the mixed iodides without special improvement, he thought best to consider and treat it provisionally as a case of sarcoma, and although he could give very little encouragement for recovery he advised using Fowler's solution. A few day later I removed the top of the fungus-like growth on the right forearm; the cutting gave no pain, and very little bleeding was caused. The specimen was placed in alcohol and given to Dr. W. W. Gannett, whose report follows.

During the following week she rapidly failed, so that by December 21st, I found her in bed and attended by a nurse.

She was delirious, had a very rapid pulse, increased frequency of respiration, lips dry and cracked, tongue brown and coated; the ulcers had rapidly extended and many new papules had appeared. Brandy was given freely and morphine at night. All other medicine was omitted.

From this time to her death, which took place January 6th, 1885, there was a gradual failure; much of the time she failed to recognize those about her. The ulcers and tumors rapidly increased, both in size and numbers, so that at the time of death there were about two hundred of them, in all the different stages of development that have been described. All parts of the body, except the head, were invaded.

No autopsy was made. I learned from the family that the disease had been of about eleven months duration.

Dr. Gannett reported as follows: —

REPORT OF TUMOR REMOVED FROM THE SKIN BY DR. C. A. CHEEVER, AND SENT BY DR. J. C. WHITE, DECEMBER 20, 1884.

An ovoid nodule, measuring ten millimeters transversely, four millimeters vertically, of a rather firm consistency, grayish color. After hardening in Müller's fluid and alcohol a series of vertical sections was made with the microtome. The outer surface of the nodule was covered with a thin layer of epidermis. In the middle portion no evidence of a papillary layer remained; in the lateral portions a few papillæ were to be seen. Beneath the thin epidermal layer, extending to the base of the nodule, and occupying the seat of the corium and subcutaneous connective-tissue was a tissue made up wholly of small spindle-cells arranged in bundles; the bundles having various directions with reference to each other.

The nuclei of the cells were round or oval, and sharply defined. In some places a few delicate connective-tissue fibres could be made out lying between the cells, but there was nowhere any suggestion of an intercellular meshwork. But few bloodvessels were to be seen.

The tumor belongs to the connective-tissue series. From its abundantly cellular character and atypical appearance it deserves the name of sarcoma. From the form of the cells it is to be designated as a small spindle-cell sarcoma.

Diagnosis. Small spindle-cell sarcoma of the cutis.

W. W. GANNETT, M.D.

Reports of Societies.

MASSACHUSETTS MEDICAL SOCIETY.
SUFFOLK DISTRICT.
SECTION FOR CLINICAL MEDICINE, PATHOLOGY AND HYGIENE.

ALBERT N. BLODGETT, M.D., SECRETARY.

DECEMBER 9th, 1885. The meeting was called to order at eight o'clock, by DR. F. I. KNIGHT, chairman. The records of the last meeting were read and approved. A letter was read by the Secretary, relative to employing a stenographer for the purpose of taking short-hand notes of the proceedings of the section, but it was thought inexpedient to take any steps in this direction at this time. The regular business of the section was then taken up.

The first paper was by DR. G. M. GARLAND, of Boston, entitled

"SOME CASES OF REFLEX NEUROSIS."[1]

The cases were all at the Carney Hospital, and were the subject of close observation by the house officer, Mr. Gleason. They present a series of strange phenomena in the domain of reflex action, and are, for this reason, of interest. The discussion was opened at the close of the paper by Dr. Rotch, who spoke as follows:

"Mr. Chairman, the cases described by the reader are of unusual clinical importance from the fact that they occurred in adults, in whom symptoms of reflex origin are rare in comparison with infants and children, where this class of cases reaches its highest development, owing to the hypersensitive condition of the child's nervous system. These reflex phenomena are so pronounced in early life that we recognize in them the most serious obstacle to our making an accurate diagnosis, knowing well that any one of them may at times represent many and entirely opposite forms of disease, although the lack of speech of the infant, and the incorrect answer of the older child appear, at first, to offer the greatest barrier to a proper appreciation of the case.

As general examples of reflex symptoms, we have the different forms of eclampsia, the vomiting of cerebral disease, and the earache arising from irritation in the mouth during the dental periods. I will mention some special cases occurring in my practice which seem to illustrate the class of cases referred to in Dr. Garland's paper.

CASE I. A child two years old was seized with dyspnœa and cough, which continued until a purulent discharge from the ear drew attention to that organ,

[1] See page 25.

and inflation of the eustachian tube was followed by immediate relief to the symptoms. There had been no other signs of aural disease, and a physical examination had disclosed nothing abnormal in the heart or lungs.

CASE II. A child four years old had a chronic otorrhœa; whenever treatment directed to the ear stopped the discharge, the child began to have what appeared to be a laryngeal cough, though nothing abnormal could be found anywhere on examination of the air passages; the cough would continue until the discharge from the ear returned, and then would cease, and this reversal of symptoms would occur four or five times in a year.

Two cases seen in consultation with Dr. Minot presented the following peculiarities, illustrating the difficulty of making a diagnosis from the rational signs, on account of misleading reflex symptoms. Case I had pneumonia of the left dorsal base. Case II had acute inflammation of the middle ear. When seen by Dr. Minot, the child with pneumonia had normal respirations, no dyspnœa, pale skin, and was sleeping quietly, while the child with ear trouble had respirations of sixty to seventy, dyspnœa, flushed face, and was relieved by inflation of the eustachian tubes.

Rosenstein's case of supposed purely reflex neurosis of the intestine is worth mentioning. A boy nine years old began to vomit fæcal matter, and, at the same time, to have fæcal discharges from the rectum. This continued for five weeks, with short intervals, and finally disappeared and did not return. Enemata in this case caused both rectal discharges and stercoraceous vomiting, and the treatment which finally gave relief was the administration of Bromide of Potash and Chloral.

Another class of cases supposed to arise from gastric irritation is the so-called asthma dyspepticum — where infants and children are seized with rapid respiration, dyspnœa and cyanosis, the temperature remaining normal, and nothing but harsh respiration being found on examination of the thoracic organs. These symptoms are promptly relieved by an emetic, and are probably due to irritation of the vagus.

Under the head of a reflex neurosis we may also possibly classify peculiar nervous phenomena which I have met with at my children's clinic at the Boston Dispensary, where the sole symptom in one case, a boy of five years, was hiccough, lasting for many weeks, and in another, a boy of nine years, gasping respiration occurring every three or four minutes. We must, however, allow that these last two cases might have been symptomatic of hysteria, or of simulated disease, for the purest type of the disease hysteria, is represented in young children, especially in the first four or five years of life, where the simulated symptoms of the malingerer, marked examples of which I have met with, would be extremely unlikely to arise as a complication.

Finally, there is a class of cases in which I am especially interested, and which, after carefully investigating, and having ample opportunity for following closely and making a precise eliminative differential diagnosis, from digestive disturbances and organic disease of the stomach, I am forced to consider a reflex neurosis, connected possibly with the great abdominal ganglia of the sympathetic; perhaps some shock to these ganglia causing a temporary paralysis of the controlling sympathetic nerve filaments of the stomach, resulting in uncontrollable gastric peristalsis. The patient, whether infant or child, is in perfect health up to the onset of the attack; it then suddenly begins to vomit, and this, in some cases, is repeated regularly every fifteen minutes by the clock, for many hours; or it will vomit, then seem pretty well for twelve or even twenty-four hours, and then have continuous vomiting for eight or ten hours; then the intervals of vomiting grow longer, and the attack stops suddenly in about thirty-six hours, after which the patient rapidly regains its strength; this may occur many times during the year, then may omit for a whole year, but pretty surely returns, and usually lasts until puberty. Absolutely no other symptoms could be discovered in these cases, excepting great thirst and prostration, following the loss of fluid from the body, and the mechanical fatigue. The temperature was usually found to be normal, and the bowels not especially constipated; the cases were evidently not induced by the ingestion of improper food; in young infants, the prostration was at times so great as to produce serious doubts as to their recovery. All treatment directed to controlling the vomiting has so far, failed, the disease apparently being self-limited, but the main factor in supporting the patient's strength during the attack is to from time to time, according to the pulse and general aspect, produce sleep, which is accomplished by enemata of Bromide of Potash and Chloral, which at times also seem to render the intervals of vomiting longer, though they do not materially shorten the length of the attack. The late Dr. Calvin Ellis saw a number of these cases, and considered them of reflex origin.

Dr. Minot also was of the same opinion when he saw a case of this kind with me. I have never heard of a death from this disease, but I think that in young infants it might occur from exhaustion unless sleep could be produced. I am inclined to attribute the cause clinically to exhaustion of the sympathetic from some shock, perhaps mental, in peculiarly sensitive subjects, and I have arrived at this conclusion by a process of careful elimination, no definite point of irritation so far having been discovered in other parts of the economy, nor any proof that there has been irritation of the gastric terminal filaments of the vagus.

The cases occurred at all ages and among all classes, and I would say once more that the theory which I have advanced as a cause of this disease is the result of six years' clinical study of special cases, and that I present it to this Section for Clinical Medicine with much modesty; for so far as I know, no one else has as yet concurred with me in my idea as to the sympathetic ganglia being the nidus of the disease, although all agree, so far as I know, that it is of reflex origin."

DR. HENRY I. BOWDITCH stated that he was much interested in the subject of the paper, which is a matter of great importance to the physician. The cases mentioned by Dr. Rotch do not fall into the same category as those contained in the paper. Dr. Bowditch never thought of these cases as caused by a reflex neurosis, but as caused by some disturbance of digestion. It is to be regretted that the reader has not given us a *résumé* of the present state of science on this subject.

Dr. Bowditch spoke of a woman whom he had recently seen, in consultation, who had some menstrual trouble, accompanied by constant cough. No positive

causes could be found for the symptoms, but a sensitive spot was discovered in the lower right abdominal region. The diagnosis of threatened abscess of the broad ligament was made, with tumefaction of the ovary. This was the cause of a severe cough which was in this case evidently of reflex origin.

DR. BLODGETT mentioned a case in which a man of middle age was the subject of a periodical attack of what he called "biliousness," which always commenced by a feeling of dull distress in the region of the liver, and was soon followed by a swelling of the lower jaw; but upon the other side, that is to say, on the left. The swelling is very painful, so that the patient is obliged to give up all business and keep the house, and at times to remain in bed. The curious part of the case is that a prompt cathartic will cause the swelling of the jaw to disappear in a few hours, with complete relief to all the symptoms. The jaw gives no further trouble until another attack of "bilousness" occurs, when the former symptoms reappear in all their intensity.

DR. GARLAND. in closing the discussion, stated that our present knowledge of reflex phenomena is not at all satisfactory. In Germany much interest is at present manifested in the subject of reflex neurosis, and cases are reported corresponding closely to those described by Dr. Rotch. Dr. Rotch's cases of vomiting well illustrates in children the same phenomena which Professor Leyden has noticed in adults, and Professor Leyden reports a case of this kind where the post-mortem examination showed no organic disease, and where the symptoms during life consisted merely of continuous vomiting. This subject also occupied largely the attention of the German Congress of 1884, and the discussion was opened at that time by Professor Leube. Dr. Garland also said that a year ago, he had met with a case which illustrated this condition of gastric neurosis, the symptoms being vomiting and the autopsy negative.

DR. H. C. HAVEN read a long and valuable review of our present knowledge of rachitis, following it by a description of the investigations which he has been for some time prosecuting at the West End Nursery, and which seem to show a decided preponderance of cases of this disorder among the children of colored parents. The paper was accompanied by elaborate tables, showing the state of development of the patients, their food, when weaned, etc.

DR. ROTCH, in opening the discussion, stated that he did not remember the exact number of the cases of raehitis which he had seen at his clinics at the City Hospital, Boston Dispensary, and Children's Hospital during the last two years, but that he had collated them, and that he was under the impression that the number of cases where it occurred in colored children was small in comparison to the white. This might, however, be accounted for by the fact that his clinics were not situated in a colored district, while the Dispensary of the Infant Hospital was in a portion of the city thickly populated by the colored race. This might bring a larger number of colored rachitics under Dr. Haven's care, but still would not account for the large per cent. of rachitics among the whole number of colored patients.

Dr. Rotch agreed with Dr. Haven as to the probable influence of climate as a cause, but he also offered the following suggestions as perhaps aiding the future study of the subject.

It has been noticed by some of our Dispensary physicians that venereal disease is especially common among the colored portion of the population. If this be so, and syphilis is more common among the colored people, hereditary syphilis would also be more common, and although we recognize that there is no direct connection between syphilis and rachitis, yet, for some years, the most prominent physicians in children's diseases in Germany have held that even where hereditary syphilis has been cured, these same children are more apt to have rachitis than those who have not had syphilis, simply from their syphilis having left them in a condition favorable to the development of a disease, such as rachitis, represented by impaired nutrition.

Dr. Rotch also said that the number of rachitics which were presented at his clinics had increased during the last six or seven years, and that he remembered being struck by the small number of cases of rachitis which he encountered among large numbers of poor children who came under his observation on his return from Vienna some years ago, where the number at that time was much larger proportionately than in Boston, and yet where the physicians insisted on calling the disease the "Englische Krankheit."

Dr. Rotch also drew attention to the results of autopsies observed by himself and others, pointing towards a possible rachitic condition of the bones of white children, without any manifestation of this condition during life, the cases merely being diagnosticated and treated as debility from impaired nutrition. Thus a well-marked rosary is at times found on the inner surface of the costal cartilages, where no suspicion of such a condition was detected during life, and it may be that there is a greater predisposition among the colored race to show the external manifestations of rachitis than among the whites.

DR. BOWDITCH remarked that Dr. Haven had made an important addition to our knowledge upon the racial and climatic relations of rachitis, and expressed the hope that he would carry on his observations to a still further extent, and by means of the United States Consuls or other officers of the government, obtain information as to the condition of the colored populations in Africa.

DR. HAVEN replied that he had endeavored to obtain the desired information from the National Library at Washington, but has not been successful.

DR. F. B. HARRINGTON, of Boston, then read a paper on

THE PULMONARY COMPLICATIONS OF TYPHOID FEVER[2],

in which was presented a series of cases, in the course of which more or less serious impairment of the pulmonary organs was noticed.

DR. VICKERY remarked that in the stupor which is often associated with typhoid fever, it is easily possible that portions of food may be aspirated into the lungs, thereby inducing a pneumonia from the presence of the foreign body in the air passages.

DR. BOWDITCH stated that in typhoid fever there is often a lack of the more striking symptoms belonging to other serious diseases, so that they may often be easily overlooked. All febrile diseases present the same general features as certain cases of typhoid, and many cases are, no doubt, ranked as typhoid which are in reality something else. It is certain that many pulmonary affections are ranked as typhoid which have nothing to do with that disease.

[2] See page 28.

DR. HAVEN showed an improved form of stethoscope, consisting of an ordinary Cammann instrument in which the usual flexible tubes are replaced by similar tubes about two feet in length, which allows the physician to stand at a somewhat greater distance from the patient, and, in some cases, as, for instance, in the presence of pediculi, is a source of great comfort. In the examinations of children it is of much convenience, as it allows greater adaptation to the movements of a fretful patient. It is quite portable, and gives almost the same concentration of sound as does the ordinary instrument.

Dr. Haven also showed an improved form of nursing bottle, by which the natural conditions are more perfectly imitated than in the forms of bottle generally in use. It consists of a flattened and elongated glass bottle, one side of which is removed so that the atmosphere may exert its normal pressure on the contained fluid, and thus imitate the normal conditions of infant feeding. Another desirable feature is that every part of the bottle is accessible to cleaning, and a rubber nipple is used in which several fine holes are made by a cambric needle. The effort of suction by the child is sufficient to excite the salivary glands of the child's mouth, and thus promote the normal digestion of the food.

DR. BOWDITCH called the attention of the section to the fact that the Society possesses no treasury, and has no funds at its disposal for any purpose. He moved the appointment of a committee by the chair, whose duty it should be to suggest some plan at the next meeting whereby the small sums necessary for the purposes of the Section might be provided. The motion was seconded by Dr. Haven, and was passed by the Section.

THE CHAIRMAN stated that he would appoint the committee at another time, and would inform them of their duty.

Adjourned at 10.15 o'clock.

THE NEW YORK ACADEMY OF MEDICINE.

STATED meeting, December 17, 1885.

DR. T. GAILLARD THOMAS read a paper on

VAGINAL AND VULVAR ENTEROCELE.

There were, he said, five varieties of hernia which may show themselves by the vagina and vulva, namely: (1) cystocele; (2) rectocele; (3) vaginal enterocele; (4) pudendal enterocele; (5) perineal enterocele. Other varieties, if the subject were treated in minute detail, might also be given, based on the contents of these hernial sacs, in which the ovaries, the uterus and the fallopian tubes, either empty or filled with the products of conception, have in exceptional cases been found; or upon some extremely rare and extraordinary development of this condition, such as in one case of Burns, referred to by Sir Astley Cooper, in which the base of the bladder, passing down alongside of the right wall of the vagina, formed a hernia in the labium majus of that side. But, for practical purposes it was only necessary to consider the varieties of hernias named, and the object of the present paper was to study the descent of the intestines through the pelvic roof and their protusions with the labia majora, the vagina, or through the perineum.

He referred to a number of standard works and text-books, and said that it was curious to see how very generally these varieties of hernia had been ignored in systematic treatises on gynæcology; and this was the more remarkable, since errors in their diagnosis were very liable to occur. Even in literature outside of systematic treatises it was difficult to find much upon the subject. Berard's *Dictionaire de Médicine*, published in 1846, gave the best account of it which had come under his notice. Having mentioned various instances of this accident which had been put on record by different writers, Dr. Thomas went on to speak particularly of

VAGINAL ENTEROCELE.

This variety consisted in a descent of the intestines into the pelvic cavity, either in front of or posterior to the broad ligament of one side. As Boyer and Richter long since pointed out, the intestines never descended directly in the median line, either anteriorly or posteriorly, on account of the intimate relations of the vagina at these points; but always descended a little obliquely, and most generally posteriorly. Usually, it was the intestines alone that descended in these hernial protrusions; but sometimes the omentum accompanies them; and usually also, it was the small intestines that composed the hernia, but the large intestines might be involved in it.

Vaginal hernia, as a rule, developed itself in the following way: A loop of intestines gradually pushed downward the prolongation of peritoneum which forms the pouch of Douglas, until it impinged upon the outside of the wall of the vagina, and caused it to arch inwards. This mechanical influence being continued and gradually increased, a tumor formed in the vaginal canal, inverted one wall of that canal more and more completely, and might end by escaping from the vulva and hanging outside the body, as a complete prolapse of the bladder or rectum would do. Under these circumstances, it was evident that the tumor which protruded had for its compound parts, first, the inverted vaginal wall, second, the peritoneum, and, third, the intestines. As Berard had pointed out, it was very important to determine whether the entire thickness of the vaginal wall was inverted and formed the envelope of the tumor, or whether the external coat was torn so as to present an opening through which the hernia passed; and although in the literature of the subject were to be found reports of several autopsies the point apparently still remained unsettled.

Unquestionably the greatest danger attending this form of hernia, as well as the two other varieties that claimed attention this evening, arose from the possibility of an error of diagnosis on the part of the impulsive or unwary surgeon. If the tumor occurred during labor, and obstructed the progress of the fœtal head, it might perhaps be mistaken for an ovarian or parovarian cyst, with a long pedicle, which had been pushed into the pelvis; in which case a trocar and canula might be plunged in, and the operator be horrified at the escape of fœcal matter and intestinal gases. Or, if the condition was found to exist in the non-parturient woman, an effort might be made to remove it, when the operator would be enlightened in a very painful manner in regard to the true nature of the case. In this connection Dr. Thomas quoted two instructive cases that had been reported.

Parturition was the most frequent cause of the varieties of hernia under consideration; but it was to be

borne in mind that some of the most striking cases of the accident recorded had occurred in nulliparous women. These were usually due to violent efforts, falls, and the previous existence of pelvic tumors which had burst or been removed. Vaginal hernia, as long as it remained in the pelvic cavity, and did not interfere with parturition, was usually a matter of little moment, and the source of little inconvenience. Under certain malign influences, however, occurring during parturition, as well as in the non-parturient state, such as pressure from the fœtal head, inflammatory processes, fœcal impaction, torsion of the contents of the sac, or the existence of a neoplasm, strangulation might occur. The symptoms which were then apt to develop were: difficulty in locomotion, pelvic tenesmus, or "bearing-down," dragging sensations, tendency to constipation, and, in time, vomiting. Should the accident complicate parturition, obstructed labor was apt to result. Upon vaginal examination, a tumor of greater or less size was found in the vagina, and was diagnosticated by the following physical signs: It was supple, soft and yielding; decreased upon pressure; gave a sense of gurgling to the finger, if not to the ear; increased upon the patient's coughing or straining; yielded resonance upon percussion; and was very generally reducible if the patient were placed in the knee-chest position and efficient taxis was practised.

Vaginal enterocele might be confounded by a careless and rapid diagnostician with the following conditions; prolapse of the vagina, uterus, bladder or rectum, or with a combination of these displacements; with vaginal cysts; with ovarian or parovarian cysts; with a fibrous tumor presenting low down in the pelvis; or with a marked case of tubal dropsy. Error was likely to creep in from the practitioners being too confident, too much off his guard, and too little inclined to consider the possibility of a mistake. If he approached these cases calmly, philosophically, and in a proper spirit of diagnostic investigation, it was very improbable that an erroneous diagnosis would occur. Having mentioned that most cases presented striking features, he quoted the graphic description of a case given by Sir Astley Cooper in his celebrated work on hernia.

It was to be borne in mind that, like hernia occurring elsewhere, those forms now under consideration might show themselves in two ways: *first*, by a brusque and sudden development, marked by alarming and decided symptoms, and, *secondly*, by a development so gradual and uneventful as to symptoms as to escape recognition entirely until the mere mechanical results of the hernial tumor forced themselves upon the attention of patient or physician. In certain rare instances acute vaginal hernia occurred as a consequence of some traumatic influence destroying the continuity of this canal in its upper part, and Dr. Thomas had himself been personally familiar with two such cases.

PUDENDAL ENTEROCELE.

Pudendal hernia demonstrated its existence by the presence of an elastic tumor about as large as a hen's egg, or a pigeon's egg, about the middle of the labium majus of one side. Having explained its mode of origin, he said that some of the French writers divided this form of hernia into two varieties: (1) anterior labial hernia, and (2) posterior labial hernia. From inguinal hernia ending by descent into one of the labia majora the internal variety might be thus distinguished: (1) The finger, pushing the tumor upwards, will pass into the pelvic cavity between the ischium and vagina. (2) At the level of the os uteri, or thereabout, it will enter the pelvic roof. (3) Pressure being maintained on the inguinal canal, and the patient being ordered to cough, it will, in spite of the pressure, recur.

The following conditions were mentioned as liable to be confounded with pudendal hernia; cyst or abscess of the vulvo-vaginal gland; abscess of labium majus; fatty or fibrous tumors of the labium; tumors descending from the pelvic cavity. Cases in illustration of some of these points was quoted, and Dr. Thomas then said that the differentiation of pudendal hernia from these conditions of the labia should be very carefully considered; for if an erroneous diagnosis were made here, a fatal issue might very probably prove the result. The diagnostic signs which proved most reliable and which might almost be styled pathognomonic were these: (1) Airy feeling upon palpation; (2) gurgling upon replacement; (3) diminished tension in the dorsal decubitus; (4) diminution of bulk upon taxis; (5) resonance upon percussion; (6) percussion upon coughing; (7) intestinal pains of colicky character.

PERINEAL HERNIA.

This might affect both male and female, and in the latter it consisted of the descent of the intestines between the vagina and rectum, the advance being made posterior to the broad ligament, and continuing until the perineal muscles were forced apart, and the gut, with its peritoneal envelope, was arrested by the skin. All these varieties of hernia were usually readily amenable to taxis, and this Dr. Thomas had invariably found to be greatly facilitated by the knee-chest position. In some rare cases strangulation occurred; and under these circumstances the same surgical practice was indicated as in inguinal or crural hernia, namely, cautious opening of the sac, and section of the constricting band by passing up a probe-pointed bistoury.

Before closing the paper he said he wished to put on record a remarkable case of extreme vaginal hernia which presented some features which he had never met with in such literature of the subject as had fallen under his notice. The hernial tumor hung outside the body and reached as far down as the middle of the thigh on the right side; causing the most intense and unintermitting suffering. He performed laparotomy, and as the abdominal walls were cut through (an assistant in the meantime pressing the mass up into the pelvis), he discovered a tumor of apparently a soft fibroid character on a level with the symphysis pubis, which had probably been the original cause of the vaginal hernia. The sac was secured by sutures in the abdominal wound, a glass drainage-tube having been introduced, and the patient made a good recovery. Five weeks had elapsed since the operation, and there had been no return of the pain or other symptoms; but he said that he still felt considerable apprehension in regard to the future.

Dr. H. C. Coe, pathologist to the Woman's Hospital, had examined the tumor microscopically, and expressed the opinion that it was probably an unusual growth of the pelvic connective tissue. Dr. Thomas then referred to several cases of connective tissue growths, such as tumors of the broad ligament, which had been reported by A. Martin, Schroeder and Hoffmeyn, the notes of which had been kindly collected for him by Dr. McCosh.

In conclusion, he remarked that, unfortunately, little could be said concerning the treatment of vaginal or vulvar hernia, for the reason that there was but one variety, the pudendal (which eventuated from inguinal hernia), for which very much could be done. That variety was amenable to treatment by the ordinary truss, as inguinal hernia was. The other varieties could to a limited degree be relieved by pessaries, perineal pads, abdominal bandages, etc.; but we were poor in methods of decided relief, and utterly wanting in those of cure. It appeared to him that the plan suggested and partially carried out in the case which he had related, promised more than any other which had as yet been brought forward; of the validity of this surmise time and experience would have to give the proof. He was certain that if another case of large vaginal hernia should present itself he should feel inclined to try laparotomy; dragging up the sac, and fastening it in the abdominal wound. B. Schmid had stated that attempts were made by Huguier at radical cure of vaginal hernia by an oval excision of part of the posterior vaginal wall, and closure by suture, but without any lasting result. He thought that he must indeed be a sanguine surgeon who hoped for much from such procedures.

Recent Literature.

A Treatise on Nervous Diseases; Their Symptoms and Treatment. A text-book for Students and Practitioners. By SAMUEL G. WEBBER, M.D. pp. 410. New York: Appleton & Co. 1885.

The want has long been felt, especially among teachers and students, for just such a book as this with which Dr. Webber has supplied us: a reliable manual, which should bring together and present in a concise form, and with due discrimination, the facts and opinions which have been multiplying so fast in the special literature of the day.

The task which the author set himself has been, on the whole, admirably performed. The whole range of the more important diseases of the nervous system has been covered, and it is evident, although but few references are given, that the observations of the best authorities, and the results of the author's ripe experience have been carefully utilized.

Above all, it is thoroughly trustworthy. The chapters which strike us as the most susceptible of improvement are the *general introduction*, and the chapter on the *anatomy of the brain*.

In the former, the *methods of testing* the functions of sensations and motion, etc., are excellent so far as they go, but it seems to us that auditory as well as the visual functions should have been considered, and for that matter, the book would have gained in value if a number of other points could have been touched upon which every one must have in mind in making a thorough examination of a patient. Still, we admit that the claims of conciseness are supreme.

The few clinical and therapeutic considerations with which this chapter closes, though themselves highly important, yet leave a sense of incompleteness in the reader's mind.

The chapter on the anatomy of the brain is an excellent summary. Of course so complex a subject could not be thoroughly taught in so short a space, and possibly the real needs of the student and practitioner would have been better met if nothing more had been attempted than a clear statement of the broadest facts in anatomy, in their relation to physiological and clinical facts, such as one would make to a person almost wholly ignorant of the details of the subject. In this way space would have been gained, and, as it seems to us, a more easily remembered even if less accurate impression made upon the reader. Still, here as elsewhere, we are quite ready to admit that it is a question of judgment that is at stake, and that the author's conclusions may have been the best. The diagrams are excellent.

The chapter on *aphasia* might perhaps have been clearer if treated more from a physiological and less from the purely symptomatic standpoint.

All these are, however, minor criticisms on a book which is unquestionably of great merit, and which we hope to see pass through many editions.

The profession in Boston has not been prolific of book-writers, and Dr. Webber's volume is all the more welcome on that account. J. J. P.

Alpine Winter in its Medical Aspects, with Notes on Davos Platz, Wiesen, St. Moritz, and The Maloja. By TASKER WISE, M.D., etc. Second Edition. pp. 121. London: J. & A. Churchill. 1885.

This book is a second edition under a new name of the "Alpine Winter Cure," brought up to date and with an account of The Maloja, its advantages as a health resort, and a description of the new hotel completed this year superadded. This hotel, designed specially for winter residence by M. Jules Rau, a Belgian architect, is fitted with arrangements for the propulsion and extraction of air throughout the building, as well as for the addition of ozone — the inanimate thaumaturgist — to the atmosphere of the corridors and some of the large saloons. The ozone is produced by the surplus electricity at command, the building being lighted by electricity. Elaborate plans are given to explain the system of ventilation and heating, a system which may or may not work as well in practice as it does on paper. One is struck by the fact that the bedrooms contain no open fireplaces, and one thinks of Aiken, S. C., where every room has its fireplace and no extra charge is made for its supply of wood. Directions are given how to reach the Alpine Winter Resort, and the book will be found valuable by those contemplating a sojourn in that region. F. C. S.

— A circular of the National Board of Health, under date December 30, reports three deaths in London during the week ending November 28, ascribed to hydrophobia, making a total of twenty-five from this cause during the current year, against an annual average of six in the past ten years. During the week ending October 3, there were ninety-two cases and forty-four deaths from cholera in the several cities and prefectures of Japan. In Spain, the disease is practically *nil*. In the province of Finisterre, there were sixty-two cases and twenty-five deaths; in Toulon, none. It is also prevalent in the city and province of Palermo, and scattering cases are reported again in the province of Venetia.

Medical and Surgical Journal.

THURSDAY, JANUARY 14, 1886.

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CEREBRAL SURGERY.

THE appearance in book form[1] of Dr. J. B. Robert's views on the "Field and Limitation of the Surgery of the Human Brain," is very acceptable. This writer has done his share in modifying the prevailing opinion on the subject, and his book will serve as a valuable practical aid in deciding the question of operative interference in a class of cases upon which our ideas have been until recently far too conservative. The brain has long been held sacred from the hand of the surgeon, except where the call for operation has been obviously imperative. This conservatism has been due partly to fear of inflammation, and partly to a dread of exposing so delicate and highly organized a structure, presumably the seat of the intellect, as well as the final centre of motion and sensation, to the touch of the examining finger and the knife. It has, however, been long known that large areas of brain matter could be destroyed by foreign bodies, tumors, abscesses and hæmorrhage, with comparatively little apparent damage to intellect or other cerebral function; it has also become an accepted fact that certain localities are devoted to certain functions, and that in many cases the lesion can be traced directly to its lodging-place near or at the surface of the brain and within easy reach by operation. The mortality from trephining *per se*, has been shown by competent authorities to be comparatively low; the dangers arising generally either from the disturbance for which the operation was instituted, from imperfect antisepsis, or from faulty drainage. It has been shown (Yeo) that while death always follows trephining without antiseptic precautions, in monkeys, the mortality may be reduced by such precautions to a very small percentage. Estimates of the mortality in man are of necessity difficult; the lowest is that of Amidon, who places it at a little over three per cent. Nancrede gives a mortality of 10.69 per cent., with a death-rate of 15.29 per cent. to cover the probable risk in trephining a simple depressed fracture. Roberts himself makes the statement that "The removal of portions of the cranium by the trephine or other cutting instrument is, if properly done, attended with but little more risk to life than amputation of a finger through the metacarpal bone." The acceptance of such facts and opinions, even with considerable modification, should lead to a much greater freedom in this direction, for many cases are still doubtless allowed to go from bad to worse under routine treatment, rather than undertake the indicated operation. The case reported by Dr. Witherle, in which a clot was found on trephining, but was allowed to remain rather than enlarge the opening for its removal, illustrates the prevailing conservatism. In marked contrast is the case operated on by Mr. Godlae, where although the opening of the skull revealed nothing abnormal, an incision was made into the apparently healthy brain, disclosing the lesion (a glionæ) whose seat had been previously determined by Dr. Bennett through the aid of cerebral localization. The unfortunate fatal termination of this case, doubly unfortunate on account of its having been regarded by the laity as rather a test of the practical results of study by vivisection, was perhaps due, Amidon has suggested, to imperfect antisepsis and drainage.

Roberts says that the results of the study of cerebral localization are more necessary to the conscientious surgeon than to the neurologist. This statement is hardly to be taken literally, but it is certainly for the advantage of the surgeon to know the symptom atology of lesions about the fissure of Rolando, the most obvious seat for operation, being the region whose functions are most clearly defined. This region, more especially anterior to the fissure, is devoted to motion, the upper third presiding over the opposite leg, or leg and arm, the middle third to the opposite arm, the lower third to the opposite side of the face, and, on the left, to speech. These areas have, probably, no definite boundaries, but may be supposed to shade off into each other as well as into the centres of sensation, which are with less certainty determined, but which are supposed to lie near the corresponding centres for motion, but principally behind the fissure. The directions for finding the fissure are not difficult. The bregma, or junction of the sagittal with the coronal sutures, is the first landmark. This can sometimes be felt, and can always be found by the aid of Broca's Flexible Square, which is simply a draughtman's square made of some flexible metal, with a conical plug at the point of junction. The plug being placed in the ear, and the horizontal arm bent round under the nose, the vertical arm, when bent over the head, will pass over the bregma at the median line. Measuring back from this point five ctm., the upper end of the fissure of Rolando is approximately found. The lower end lies about three ctm. above the end of a horizontal line seven ctm. in length, carried backwards from the superciliary ridge. The line joining these two points, which may be marked out on the shaved scalp, will indicate the course of the fissure with sufficient accuracy for operation, a trephine opening of an inch diameter made over this line, being quite certain to include the fissure. The part of the

[1] P. Blakiston & Co., Philadelphia. 1885.

line selected must, of course, be determined by the extremity or extremities affected. If one opening proves insufficient, others may be made. Roberts quotes the case operated upon by Briggs, in which an area of the skull as large as the hand was removed for epilepsy without evil result, and with relief of the disease.

Roberts's observation is doubtless correct, that there will always remain a greater hesitation in trephining for the relief of insanity and epilepsy, and in the search for tumors, than in cases of hæmorrhage, abscess, and fracture. This will of necessity, be true, partly by reason of the lesser urgency in the former cases, and partly on account of the element of uncertainty in their diagnosis.

CONTAGIOUS OPHTHALMIA IN THE ASYLUMS AND RESIDENTIAL SCHOOLS OF THE CITY OF NEW YORK.

DR. RICHARD H. DERBY, Chairman of the committee appointed last spring to investigate the subject of contagious ophthalmia among the asylums and residential schools of the city, in connection with Dr. John J. Milhan, of the State Board of Charities, Arthur G. Sedgwick, of the State Charities Aid Association, Elbridge T. Gerry, of the Society for the Prevention of Cruelty to Children, and James Gallatin, of the New York Association for Improving the Condition of the Poor, reported that of the fifty of these institutions, the committee had made examinations of many of the most important. These were conducted by sanitary inspectors of the Board of Health, accompanied, in each instance, by experts in ophthalmology, and revealed that a worse state of things exists to-day in most of the asylums visited, than the preliminary report read before the Academy in June last, indicated. Reports received from various reputable physicians, showed that, in nearly all the asylums of the city, children are admitted without due examination of their physical condition, especially as to the condition of their eyes; that no systematic inspection of either the buildings or their inmates, was made by the physicians in charge of these institutions; that no system of quarantine at all adequate was practised; that many of the asylums are grossly overcrowded; and that very grave defects in plumbing have been found. To properly care for the children in them, the committee was satisfied that legislation is needed.

As the conclusion of his report, Dr. Derby presented the draft of an "act for the better preservation of the health of children in institutions," which had been prepared for the committee by Elbridge T. Gerry, Esq., President of the Society for the Prevention of Cruelty to Children. The proposed act provides that every incorporated institution in the State receiving or caring for children (excepting hospitals), shall have attached thereto, a regular physician in good professional standing who shall carefully examine each child applying for admission to the institution, and shall give a certificate in writing, stating whether or not the applicant is suffering from any contagious or infectious disease, especially of the eyes or skin. No child suffering from any contagious or infectious disease shall be allowed to enter or remain in any institution in contact with children not so affected, but shall be immediately isolated, or placed in a proper room or infirmary, which shall be provided for that purpose. It is made the duty of the physician to give notice in writing to the officers of the institutions, whenever any dormitory therein is so overcrowded that there shall be afforded less than six hundred cubic feet of air to each occupant.

The act was unanimously approved by the Fellows of the Academy, who also voted that the committee should be authorized to present it to the Legislature, and use their best endeavors to have it passed. The Committee of the Academy consists of Drs. R. H. Derby, C. R. Agnew, C. S. Bull, David Webster, Gouverneur M. Smith, and the President, Dr. A. Jacobi (ex-officio).

HOSPITAL NURSING CORPS FOR THE ARMY.

IN the recent report of the Surgeon-General of the Army is one recommendation which in our editorial review of the report we omitted to emphasize, but which is a measure of considerable practical importance. This is the establishment of a separate hospital corps of cooks and nurses, together with the increase of the compensation of hospital stewards, in order that men of a higher grade may be induced to accept this responsible position. At present the salary of the hospital steward is from $30 to $34 per month, in addition to which he has a ration and clothing which, being estimated at $14 and $10 per month, make the compensation say $58 per month to a man whose duties are more multifarious and whose responsibilities are nearly as great as those of the post-surgeon, whose pay is seldom less than $200 per month, with perquisites and emoluments of half as much more.

The present system of detailing ignorant enlisted men to serve as hospital cooks and nurses is fruitful of disappointment to the post-surgeons who often see their best endeavors for the treatment of the sick frustrated by the incapacity of ignorant, stupid, or unwilling nurses. Even if a man does get broken in so as to render tolerable service, he is likely at any time to be taken away from the hospital and sent back to his company to please some line officer, or for some small infraction of military discipline, or very often because he is tired of hospital work, just when he has in part mastered it.

The army will doubtless soon secure a separate hospital and ambulance corps, as most of the civilized nations now have. The reforms indicated above are equally called for, and especially in the interest of the common soldier. It is to be hoped that Congress will take the necessary action in accordance with the recommendation of the Surgeon-General.

MEDICAL NOTES.

— We have received the system of books for physicians' accounts, devised by M. L. Hitchcock, of New York, and consisting of ledger and package of twelve monthly pocket day-books. The arrangement of the ledger appears unusually simple and compact.

— An International Committee at Nice, in the interest of the abolition of gambling at Monte Carlo, has prepared a memorial to Prince Charles III. of Monaco, in whose personal interest the gambling establishments are maintained. In this memorial, is included a list of the suicides at Monte Carlo since 1878, all of them being due to disappointment at play, as an immediate cause. The list, which is explicit in names, dates, and other particulars, embraces for the eight years, eighteen hundred and twenty persons.

— An investigation by the medical examiner shows that the Yale student whose recent sudden death was attributed by the physicians to heart disease, and by others to over-exertion in foot-ball practice, was more probably caused by injuries received in an impromptu wrestling match. The examiner found that on the day of his death, the young man had a friendly scrimmage in his room with some friends. In the scuffle he was thrown violently to the floor. This shock, it is thought, caused the blood-clots in his brain which shortly after resulted in death.

BOSTON.

— Surgeon-General Holt intends soon to have a course of instruction upon military surgery given before the Second Brigade Ambulance Corps, which organization proved to be so useful an addition to the brigade at the last encampment. The course will be opened by Surgeon Dixon, of the Fifth Regiment, who will be followed by Surgeon Burrell, of the Cavalry.

— The Massachusetts pharmacy commission held its first meeting on the 5th inst., for the examination of applicants for certificates as practical pharmacists. There were between thirty and forty, of both sexes, who presented themselves for examination. The number of applications for certificates from those entitled to them by reason of three years' actual experience or in consequence of having been engaged in the drug business at the time of the passage of the act establishing the commission, now reaches 2,500.

NEW YORK.

— At the meeting of the Academy of Medicine held January 7th, the annual election of officers took place, and resulted as follows: vice-president, Dr. H. D. Noyes; corresponding secretary, Dr. Wesley M. Carpenter; recording secretary, Dr. A. M. Jacobus; treasurer, Dr. Wm. F. Cushman; Delegates to the State Medical Society, Drs. R. W. Amidon, W. E. Bullard, Gorham Bacon, and A. S. Hunter. A number of amendments to the constitution and by-laws were decided upon, and it was voted that the public should be invited to listen to the annual discourse before the academy.

PHILADELPHIA.

— The Philadelphia County Medical Society held its annual meeting on the 6th inst., for the election of officers and delegates to the State Medical Society and American Medical Association. Dr. R. J. Levis was elected to fill his second term as president, but a very unusual course was taken with regard to the names presented by the nominating committee, for election of delegates to both the State and American Medical Societies. Just before proceeding to the election, new lists were presented and offered as substitutes for the regular nominations, and the new delegates were then elected by an overwhelming majority. The significance of this action may appear upon a careful reading of the following resolutions which were offered by Dr. D. Hays Agnew, and adopted.

"*Resolved*, That at its annual election of delegates to the American Medical Association and to the State Medical Society the Philadelphia County Medical Society desires to express its regret at the action of the American Medical Association at New Orleans, in view of the injurious results which followed to professional harmony and to the prospects of the International Congress.

"*Resolved*, That the delegates from this Society be instructed to endeavor to secure such modification of that action as may best conduce to the re-establishment of professional harmony and to the success of the Congress."

From the above proceeding, which was certainly extraordinary, and the adoption of this resolution, the attitude of the delegation from the Philadelphia County Medical Society, at the meeting in St. Louis may be easily predicted. The meeting at which this action was taken, was by far the largest held by the County Society, and may therefore be considered as representing the feelings of the majority of the members.

— The College of Physicians met on the evening of the same day, the County Society having held its meeting in the afternoon. Col. George E. Waring, jr., of Newport, R. I., read a paper by invitation before the College and invited guests on "The Disposal of Sewage and the Protection of Streams used as Sources of Water-Supply," which was of peculiar interest to Philadelphia at the present time, when our politicians are driving out of office Colonel Ludlow, the city Chief Engineer of the Water Department, because he has rendered himself obnoxious by enforcing the law against manufacturers who were polluting the Schuylkill in defiance of right and authority. On the same evening a business meeting was held at which the following officers were elected. President, Dr. S. Weir Mitchell; vice-president, Dr. John H. Packard; secretary, Dr. Isaac Norris; treasurer, Dr. Charles Stewart Wurts.

The Library Committee reported satisfactory growth of the invaluable collection under their charge: and that they have commenced to issue monthly bulletins of the additions to the Library.

— The annual address was read before the Academy of Surgery, by Dr. R. J. Levis, who took for his theme "Impediments to the Progress of American Surgery," among which he classed "the existence of too many medical schools." At a recent meeting of the Academy, Dr. Thos. G. Morton, reported an interesting case of a boy who had been subjected to the operation for lithotomy at four years of age after which he made a good recovery and was free from symptoms until about one year ago, when thirteen years of age. When admitted to Pennsylvania Hospital he had cystitis and symptoms of vesical calculus but no stone could be detected upon sounding the bladder. It was decided to operate in order to relieve the cystitis. The usual lateral incision was made in the perineum, and the bladder opened; at once a mass was exposed, which, when removed, would fill two or three tablespoons, consisting of small fibrinous tubes (like vermicelli) coiled in a mass and containing phosphatic deposits. The source of the fibrinous material was believed to be the right ureter, the tubes being casts of the ureter. There had been some evidences of kidney disturbances, and pain in the right loin. After the bladder had been evacuated, the patient made a rapid and complete recovery.

— The ex-resident physicians of the Pennsylvania Hospital formed a Society and inaugurated a series of annual meetings last month. There were several papers read at the meeting devoted principally to reminiscences of former triumphs, and to the growth of the institution. The managers have directed that the paper read by Dr. Morton [1] shall be printed in an enlarged form, with a number of phototype illustrations, and it is proposed to include the other proceedings of the meeting.

— Dr. T. A. Emmett, of New York, paid a short visit this week, and upon invitation of the Philadelphia Obstetrical Society delivered a clinical lecture at the Jefferson College Hospital, demonstrating his operation for uterine prolapse.

— The classes at the college are considered large and the clinics are well attended.

Miscellany.

NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

IN our remarks last week upon the subject of polyclinics we inadvertently omitted to mention the post-graduate medical school and hospital of New York, which was one of the first institutions in this country to organize a scheme of instruction entirely for graduates in medicine. The completion and occupation of a new hospital building easily accessible to the large hospitals of the city has placed abundant clinical material at the disposal of the school and the corps of teachers comprises gentlemen abundantly able to utilize to the best advantage the material thus afforded.

[1] "Reminiscences of Early Hospital Days." Philadelphia Medical Times. p. 225.

RESPONSIBILITY OF APARTMENT-HOUSE LANDLORDS IN CASES OF BAD PLUMBING.

CONSIDERABLE interest has been manifested in a decision recently rendered by a court in New York, says the *Sanitary Engineer*, which, in effect, holds that when, by reason of inefficient plumbing, sewer-gas is permitted to enter an apartment in an apartment-house, the tenant may vacate and surrender the premises, and thereupon be relieved from his obligations to pay rent accruing thereafter. This is not an entirely new doctrine. The law in this particular respect has long been established. It was merely the application of a well-known principle of law to a new state of facts, reaffirmative of the proposition that when a landlord evicts his tenant the obligation to pay rent ceases. This eviction need not be actual — that is, by physical force. It may be constructive, such as when the landlord, by acts or omissions, so violates his duty toward his tenant as to deprive him of the beneficial use of his premises and thus force him to leave, and it is an eviction none the less by reason of the method by which it is accomplished.

Ordinarily, the tenant of an entire house, having control of the pipes and sanitary appliances, when he detects sewer-gas, may, by suitable repairs, prevent its further escape, and it would be his duty to do so; but the case of a tenant in an apartment-house is very different. The escape of sewer-gas into his apartment in consequence of defects in the general plumbing arrangements of the house, could not be controlled by him; and when the landlord permits it, the law justly allows the tenant to vacate, and imposes upon the landlord the loss of his rent.

The decision is founded in common sense, and, therefore, in justice, and while it may provoke adverse criticism from a class of unscrupulous landlords or their agents, it must commend itself for general approval.

THE DIETARY OF THE POOR.

THOSE whom hospital-work or private practice brings into frequent contact with the poorer classes of society, remarks the *British Medical Journal*, editorially, must often have been struck with the exaggerated importance which they attach to drugs in the treatment of disease, and with their proportionate ignorance and neglect of all principles of diet. The somewhat sceptical attitude towards medicines now fashionable in the profession — but likely to be as passing a fashion as farthingales or chignons in the larger world — has to some degree, permeated the highly educated classes, but it has scarcely affected the lower strata of society. Here, indeed, the error is altogether on the other side, and a profound and almost superstitious faith in the efficacy of drugs is found hand in hand with entire obliviousness of the enormous effect of principles of diet and of sanitation upon the individual and upon public health. The practitioner will have little success amongst his poorer classes of patients if, in addition to the ordinary prescribing of medicines, he do not institute a searching inquiry into the question of diet, and insist that the number, hours, and character of the daily meals shall be at least approximated to a correct physiological standard.

The most flagrant errors in the question of food on the part of the poor arise largely from their entire ignorance of the relative dietetic value of the various arti-

cles of daily consumption. The value of fleshmeat is well appreciated by them, but often it is beyond their means, and the substitutes adopted in its place are too frequently ill-suited for the maintenance of nutrition. Milk and eggs are not correctly estimated by the poorer classes, and, in the large towns, they are difficult to obtain of good quality, and at a reasonable price. We trust the time will soon come when the English farmer will cease the vain struggle to compete with the wheat-growers of America and Australia, and turn his attention to dairy produce, for which he has every advantage of soil, stock, and proximity to the best markets in the world. This diversion of the efforts of the English agriculturist into their natural channel would lead to the cheapening of milk, butter, cheese, and eggs, and the effect upon the national health would undoubtedly be most beneficial.

Vegetables, although much in use among the poor on the score of economy, are not correctly estimated dietically by them, and no distinction is made between those which are poor in nutritive properties and such vegetables as peas and beans, which, from their richness in nitrogen, are well calculated to supply the place of animal flesh. Sir Henry Thompson, in his excellent little book on *Food and Feeding*, remarks: "As an illustration of the value of legumes combined with fat, it may be remembered how well the erbswurst supported the work of the German armies during the winter of 1870–71, an instructive lesson for us in England at the present moment. It consists of a simple pea-soup, mixed with a certain proportion of bacon or lard, and dried so as to be portable, constituting, in a very small compass, a perfect food, especially suitable for supporting muscular expenditure and exposure to cold." The same writer goes on to speak of the great nutritive value of haricots and lentils, and their small cost compared with the price of meat, which is not more nourishing. Considerations of economy apart, there are many reasons for thinking that, as a nation, the English are too great meat-eaters, and that a larger preponderance of nitrogenous vegetables in the dietary scale would tend to reduce the ravages of rheumatism and gout.

Oatmeal, whether in the form of oat-cake or of porridge, and fish are recommended as foods of special value to the poorer classes, and a strong and much needed word is spoken against the use of tea to the exclusion of nourishing food.

HYSTERICAL PARALYSIS WITHOUT CONTRACTURE.

DRS. P. MARIE and Sonza Leite give in *Revue de Médicine*, May, 1885, a short summary of seven cases of hysterical paralysis without contracture in women under M. Charcot's care in 1884. The conclusions reached are thus summarized in the *Practitioner*:— (1) In all the cases sensation and muscular sense are either diminished or entirely lost in the paralyzed parts. (2) The tendon reflexes show no constant characteristic; in three cases they were increased, in four diminished or lost. This result contradicts the hypothesis that is sometimes put forward, namely, that all hysterical paralyses, even if they have no visible contracture, yet show signs of a tendency to contracture by their increased deep reflexes. (3) The hemiplegic distribution of the paralysis is the commonest type, the monoplegic the rarest; M. Charcot finds the face never affected. Seeligmüller and Buzzard, however, claim to have seen hysterical paralysis of the face. (4) The origin in four cases out of the seven was "dependent on idea," as Dr. Russell Reynolds says. One woman got herpes zoster on the left side; movement was painful at first and she gradually came to think it impossible in the left arm and leg; by sudden pressure on the eyeballs she was rendered lethargic, and the lethargy passed into a somnambulic state in which she readily assented to the suggestion that she could move both sides equally; she was put through a series of exercises before she was awoke, and when awake she found herself rid of her paralysis. Another girl, whose father was hemiplegic and who was afraid of suffering as he did, brought on herself a hysterical hemiplegia. In several cases the special senses were unilaterally affected; hearing was lost by one ear, smell by one nostril, taste on one side of the tongue, the visual field of one eye was commonly contracted, and the appreciation of color in various ways rendered abnormal.

SUICIDE IN CHINA.

DR. A. HENRY in his report on Ichang in the medical reports of the Imperial Maritime Customs of China says in regard to suicide:

Suicide is very common in Ichang, and in the numerous cases where it takes the form of opium-poisoning I am frequently called on to supply an emetic. Mr Cockburn of the Scotch Mission, who has a dispensary here, has almost endless cases of this kind. The native remedy is a dose of wood oil, supplemented by charms and enchantments. Death is also sought by other methods, as drowning, hanging, and self-wounding. The incitement to commit suicide is generally of the most trivial nature; but then one must take into account the force of fashion and the strength of the imitative faculty. Merely as an indication of the astonishing prevalence of what might be termed an Ichang malady, I cite three cases which within a few hours came to my personal knowledge.

10th June, 1884.— A young girl, the betrothed of a mason in the employment of the Customs, was living in the house of her future father-in-law. On this day she broke a basin, and being scolded, went into an adjoining room and hanged herself. 2. Same day, a man living in the city, who had an altercation with his father, committed suicide by hanging. 3. Next day, a young man living in the city, also having had some dispute with his father, rushed to the river beach and inflicted some wounds with a chopper on his chin and on the throat over the thyroid cartilage. I saw him in the evening, but by that time the application of a piece of the skin of a chicken had stopped bleeding, and there was evidently no serious damage done. I did not interfere with this treatment. The case terminated favorably.

GOV. ROBINSON'S RECOMMENDATIONS TO THE MASSACHUSETTS LEGISLATURE ON PUBLIC HEALTH.

THE people have been signally blessed by exemption from the dread ravages of pestilence. Epidemic cholera, in its progress westward, has not reached the shores of our country, and the precautionary provisions made by the last General Court remain entire and efficient for the current year.

Much alarm was excited by the threatening and uncontrolled prevalence of small-pox in Montreal, between which and our large towns and cities a constant interchange of persons is going on. In response to my request, the secretary of the treasury, directed from Washington agents to be sent to the border line between the United States and Canada, with instructions to devise and enforce every practical measure to prevent the spread of the loathsome disease southward. Though in scattered places in our State there have appeared cases which could be traced directly to Montreal for their origin, no permanent foothold has been gained, and is now believed that the time of extreme peril has passed.

To take cognizance of the interests of health and life among the citizens of the Commonwealth; to make sanitary investigations and inquiries in respect to the causes of disease, and especially of epidemics and the sources of mortality, and the effects of localities, employments, conditions and circumstances, on the public health; to gather information in respect to these matters for diffusion among the people; to investigate contagious or infectious diseases dangerous to public health, when they exist or threaten in particular localities, and to adopt means to prevent the spread thereof, either independently or in co-operation with the local authorities; to prohibit and prevent the carrying on of offensive trades; to take cognizance of the interests of the public health relating to the sale of drugs and food and the adulterations of the same, and to make all necessary investigations and inquiries in reference thereto — these duties are so comprehensive and important that, in view of the public welfare, their direction and supervision should be intrusted to those whose learning, wisdom and experience furnish the highest qualifications, and whose obligations to the public do not require work in other departments equally exacting. No portion of the duties which I have described — and there are many more of kindred character, such as to determine the sanitary effect of the pollution of sources and streams of water, and of the use of certain kinds of illuminating and fluel gas — can be neglected with safety. It seems to me it would be unwise in the extreme to assign the work of the inspection of drugs and of milk and other food, for the detection and prevention of adulterations, to boards or officers who are not qualified by education or experience for such analysis or inquiry. Town and city officers may, it is true, do much to enforce the statutes relating to this subject, which so closely touches the health and life of the people; but it will not be safe to depend on them alone. Intelligence, vigor, courage and vigilance are needed in one general board or commission, whose jurisdiction is limited in territory only by the boundaries of the State. The advantage of those who thrive upon the fraud and rascality of food and drug adulterations will be served by any action that shall obstruct or impair the enforcement of the law; but they have little reason to expect protection to their selfish interests.

I recommend the establishment of an independent board of health, which shall be charged with all the matters enumerated, and with others demanding like consideration and treatment. Such a board can work with entire harmony within itself, and would be relieved of the consideration of subjects foreign to the underlying principle of its organization. Medical and scientific men, sanitarians and specialists take a lively interest in the question, and from them a State board of health would receive most abundant aid, the benefits of which could not fail to reach the people.

I am aware how difficult it is — perhaps impossible — to discuss this topic without seeming to disparage or reflect upon individuals, but nothing is farther from my intention. Personal controversies, even about public affairs, may seriously concern the participants, but they are of little consequence when the problem is to determine upon a proper policy of administration. To transfer a portion of the work now imposed on the State Board of Health, Lunacy and Charity to another board of special creation carries no criticism or condemnation; it merely recognizes and removes the plain incongruity in duties assigned to the present organization. It can serve no useful purpose to rehearse the story of past differences or difficulties, and the triumph of partianship on one side or the other of such a question is of insignificant moment.

No elaborate legislation will be required to effect the change proposed, nor need the establishment of such new board materially increase expenditures. The present board will then continue to have supervision over the charities and lunacy. Inasmuch as the great body of lunatics are a public charge, they are proper subjects for consideration and control, in a large sense, by the charity department. As a rule, pauperism is a concommitant of insanity. There is, however, no similar relation or close connection between questions of sanitation, in the broad sense now outlined in the statutes, and the administration of public charities.

Exceptional instances will undoubtedly be met in the management of the health department which will call for the application of charitable relief, but no embarrassment can arise therefrom more than under the present system of apportionment of duties among several chiefs of departments, with sub-committees of the entire board supervising such work.

ACTION OF THE WORCESTER MEDICAL IMPROVEMENT SOCIETY ON THE DEATH OF RUFUS WOODWARD, M.D.

AT a special meeting of the Worcester Association for Medical Improvement, Dr. Leonard Wheeler offered these resolutions: —

Inasmuch as our good friend and comrade, Dr. Rufus Woodward, was suddenly taken from us by death, on Wednesday, December 30, 1885,

Resolved, that in him we have lost a brother practitioner of medicine, who has always commanded our respect, and in an unusual degree our love. That in his death we recognize a sad loss to ourselves and to the community which he served so long and so faithfully as a physician, devoted to his patients and to the public welfare.

Resolved, that in him we had before us a man of frank and manly virtue, a model of pure life and pure speech: one to whom we never appealed in vain for generous assistance or friendly sympathy.

Resolved, that we recall him as the first secretary of the organization, just forty years ago, and as one of its most constant attendants and firmest supporters ever since, and that we shall miss him sadly.

Resolved, that these resolutions be entered upon our records and that a copy be sent to his family, to the daily press, and the *Boston Medical and Surgical Journal*.

Dr. Sargent said: I had known Rufus Woodward longer than any one here present, and I presume that I knew him better. And now that he is gone I do not propose before this assembly of physicians to speak of him as a physician. Many of you can judge him in this capacity as well as I. It is of him as a friend and a man that I would speak. In friendship he was fast and constant. True himself, he was full of trust. My relations with him were too intimate and too tender for me to develop them here. In more than forty years of intimacy I never doubted him and never found him wanting. And as a man he was without guile. Of high principle and refined taste, and good culture, and manly dignity, he was superior to all the petty jealousies which so often poison the medical profession. I do not recollect ever having heard him speak an unkind word of any physician. And he judged all men charitably, rarely speaking of persons, but only of things. He had a love for his profession which was a part of his love of natural history, in which his proficiency was ever distinguished. His life was a happy one, for he studied constantly to add to the happiness of others. And it was happy especially because he was so happy in his home. There was never a tenderer and more devoted husband, and he took a fond interest in all that interested his children, enjoying their young life with them, and sharing in their amusements, in their studies, and in their occupation. He was no slave to money, and courted no applause. When we look back through his life, which was so pure, so earnest and so unselfish, we do not see the plodding and care-worn physician, but the good man, genial and lustrous in his golden atmosphere of good deeds and good cheer, and happy surroundings. If length of life is to be measured by the sum of happiness his life was long, and the lesson to us all is a good one.

Remarks were then made by Drs. Gage, Rice, Francis, Marble, Martin and others, Dr. Gage saying: —

Mr. Chairman: I have made no preparation for this occasion, and can add nothing worthy of the subject to what has been so well said. The very sad event which has occasioned this special

meeting has touched us all deeply. The death of Dr. Woodward is felt by every member of this association as a personal loss and bereavement. He was the friend of all and he was beloved by all. But to some of us who have known him longest and most intimately the shock of his sudden and untimely removal has come with a peculiar and an overwhelming force. To me, especially, who have known him familiarly ever since I came into Worcester County to live, who have always enjoyed his friendship, and who have lived by him in the closest of neighborhood relations ever since my marriage in 1860, it has come almost like the loss of a real brother. To observe him coming and going in unwearying response to the demands of a large and laborious professional practice, to receive his cheerful, robust and ever welcome greeting, and to spend with him as opportunity offered, when the work of the day was done, an hour of social intercourse and relaxation — these have been among the pleasant and almost constant features of my daily life for nearly thirty years. In removing him death has come very near to me and mine. Dr. Woodward was a good physician; an intelligent, upright and conscientious practitioner. His heart was full of tenderness and of kindly, manly sympathy with human suffering. His profession was with him a sacred trust, and he administered it as such. Multitudes who only knew him as the good physician will long and sadly mourn his loss. But as Dr. Sargent has well said, he was much more than a good physician. In the broadest sense he was a good man, a good son, husband, father, brother, friend and neighbor. He was a good and eminently useful citizen, wise, public spirited and helpful in every good work. He was, indeed, a true hearted and faithful man in all the relations of life. It is eminently proper and fitting, Mr. Chairman, that we should place upon our records, where it may be read by those who come after us, a suitable testimonial of the love and esteem in which we held our deceased friend, and I desire to express my hearty concurrence in the sentiments so appropriately expressed in the resolutions offered by Dr. Wheeler, and to adopt as my own the very just estimate of Dr. Woodward's character which Dr. Sargent has drawn in the remarks he has just read, and I now move you that both the resolutions and the remarks of Dr. Sargent be accepted and adopted as the sense of this meeting.

Correspondence.

EXPLORATORY INCISIONS OF THE ABDOMEN.

NEW YORK, 13 East 34th St.,
JANUARY 10, 1886.

MR. EDITOR, — On page 14 of your issue of January 7th, in the report of some remarks upon exploratory incisions of the abdomen, I am reported as saying that I thought simple opening of the peritoneum was as safe as sewing up the cervix uteri.

If such were my words I beg to amend them. What I attempted to say was, that *now* I opened the peritoneum, with as little apprehension as I felt *five years ago* in operating upon a cervix. This I said to emphasize the vast gain to abdominal surgery, which has been gained by simple but exact cleanliness.

Before the application of "Listerism" to gynæcology, cervix operations were often followed by pelvic peritonitis, and occasionally a case died. To-day any inflammatory reaction after such an operation is very rare. In fact in the hands of one familiar with the use of instruments, it has become one of the safest operations. Therefore it would be worse than misleading in one to say that incision of the peritoneum, no matter how great the case, was as safe as sewing up a cervix. Even *now* it cannot be said to be as safe as *was* sewing up a cervix five years ago, before the application of "Listerism."

In using my expression I gave vent to a personal feeling rather than to what I should lay down as a principle of action.

By giving place to this statement you will confer a favor upon me. Respectfully yours, W. M. POLK.

REPORTED MORTALITY FOR THE WEEK ENDING JANUARY 2, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diphtheria and Croup.
New York	1,340,114	638	242	18.40	14.08	2.08	2.72	9.44
Philadelphia	927,995	312	104	17.92	14.72	—	.64	12.80
Brooklyn	644,526	—	—	—	—	—	—	—
Chicago	632,100	—	—	—	—	—	—	—
Boston	390,406	168	62	15.00	15.00	1.80	.60	7.80
Baltimore	408,520	135	45	14.06	17.02	—	2.22	6.66
St. Louis	400,000	—	—	—	—	—	—	—
Cincinnati	272,400	113	42	12.32	14.96	6.16	—	4.40
New Orleans	234,000	136	34	10.22	11.68	—	.73	5.84
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	91	30	10.90	22.89	—	2.18	2.18
Pittsburgh	180,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	39	11	12.80	17.92	—	—	5.12
New Haven	62,882	—	—	—	—	—	—	—
Nashville	54,400	31	13	22.61	12.92	12.92	—	3.23
Charleston	52,286	—	—	—	—	—	—	—
Lowell	64,051	30	11	16.66	13.33	—	—	6.66
Worcester	68,383	18	6	5.55	16.66	—	—	5.55
Fall River	56,863	28	12	21.60	18.00	3.60	—	10.80
Cambridge	59,660	27	9	7.40	22.20	—	—	7.40
Lawrence	38,825	14	—	—	21.42	—	—	—
Lynn	45,861	24	7	12.60	29.40	—	—	4.20
Springfield	37,577	—	—	—	—	—	—	—
Somerville	29,992	—	—	—	—	—	—	—
Holyoke	27,894	—	—	—	—	—	—	—
New Bedford	33,393	9	2	22.22	22.22	11.11	—	11.11
Salem	28,084	9	1	11.11	—	—	—	—
Chelsea	25,709	11	1	—	9.09	—	—	—
Taunton	23,674	7	2	—	—	—	—	—
Gloucester	21,713	8	4	—	25.00	—	—	—
Haverhill	21,795	7	—	28.56	28.56	—	—	14.28
Newton	19,759	4	3	—	—	—	—	—
Brockton	20,783	5	—	—	40.00	—	—	—
Malden	16,407	3	1	33.33	33.33	—	—	33.33
Newburyport	13,716	—	—	—	—	—	—	—
Waltham	14,609	4	—	—	25.00	—	—	—
Fitchburg	15,375	—	—	—	—	—	—	—
Northampton	12,896	3	—	—	—	—	—	—
88 Massachusetts Towns	—	60	13	8.30	18.26	—	—	4.98

Deaths reported 1,934: under five years of age 655; principal infectious diseases (small-pox, measles, diphtheria, and croup, whooping-cough, fevers, and diarrhœal diseases 296, consumption 289, lung diseases 256, diphtheria and croup 156, diarrhœal diseases 30, whooping-cough 26, scarlet fever 26, typhoid fever 21, erysipelas nine, malarial fever nine, cerebro-spinal meningitis eight, puerperal fever five, small-pox two, measles two, typhus fever two. From scarlet fever, New York six, Philadelphia four, Boston and Baltimore three each, Cincinnati, District of Columbia and Lynn, two each, New Orleans, Providence, Fall River and Salem one each. From typhoid fever, Philadelphia six, New York, Boston, Baltimore, District of Columbia and Lowell two each, Providence, Nashville and Chelsea one each. From erysipelas, New York five, Boston two, Philadelphia and New Orleans one each From malarial fever, New York four, New Orleans two, Philadelphia, Baltimore and District of Columbia one each. From cerebro-spinal meningitis, New York four, Boston, Nashville, Lowell and Fall River one each. From puerperal fever, Philadelphia, Baltimore, New Orleans, District of Columbia and Providence one each. From small-pox, New York two. From typhus fever, New York two.

In 107 cities and towns of Massachusetts, with a population of 1,257,737 (population of the State 1,941,465), the total death-rate for the week was 18.18 against 15.63 and 15.29 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,906,446, for the week ending December 19th the death-rate was 23.0. Deaths reported 3,918: infants under one year of age 855; acute diseases of the respiratory organs (London) 503, measles 140, whooping-cough 124, fever 49, scarlet fever 43, diphtheria 30.

The death-rates ranged from Brighton 16.4 to 41.2 in Plymouth; Birkenhead 18.5; Birmingham 22.7; Bradford 18.5; Hull 20.7; Leeds 23.8; Leicester 21.5; Liverpool 26.8; London 22.0; Manchester 26.5; Nottingham 33.8; Sheffield 23.2.

In Edinburgh 23.3; Glasgow 25.9; Dublin 34.4.

For the week ending December 19th in the Swiss towns, there were 43 deaths from acute diseases of the respiratory organs, diarrhœal diseases 24, diphtheria and croup nine, whooping-cough and typhoid fever each three, small-pox and scarlet fever each one.

The death-rates were: at Geneva 13.2; Zurich 13.6; Basle 17.4; Berne 26.2.

The meteorological record for week ending January 2d, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps: —

Week ending	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
Saturday, Jan. 2, 1886.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration Hrs. & Min.	Amount in Inches.
Sunday,...27	29.782	19.8	24.6	11.8	80.0	57.0	44.0	60.3	N.	N.	N.	17	20	22	N.	O.	F.	—	—
Monday,..28	29.531	33.5	38.0	23.7	48.0	50.0	56.0	51.3	N.W.	N.W.	N.W.	12	26	21	C.	C.	C.	—	—
Tuesday,..29	29.855	36.2	41.1	32.3	58.0	40.0	56.0	51.3	N.W.	N.W.	N.W.	19	17	6	C.	C.	C.	—	—
Wednes,..30	30.099	37.2	52.1	30.3	67.0	58.0	75.0	66.7	W.	S.	S.W.	2	3	7	C.	C.	C.	—	—
Thursday, 31	29.845	43.1	50.0	33.9	89.0	88.0	95.0	90.7	S.W.	S.E.	S.	4	9	11	O.	T.	O.	—	—
Friday, ... 1	30.057	42.1	48.9	37.6	82.0	53.0	75.0	70.0	W.	N.W.	N.W.	17	19	8	F.	C.	C.	—	—
Saturday,. 2	30.410	38.6	43.9	32.9	65.0	67.0	100.0	77.3	N.	N.E.	E.	11	12	12	C.	C.	R.	23.	.43
Mean, the Week.	29.936	35.8	42.7	28.9															

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JANUARY 2, 1886, TO JANUARY 8, 1886.

GODDARD, CHAS. E., major and surgeon. Died at Fort Yates, D. T., January 4, 1886.

MUNN, CURTIS E., assistant surgeon and captain. Ordered from Department East to Department Columbia.

SHANNON, WM C., assistant surgeon and captain. Ordered from Department Platte to Department East, S. O. 4, A. G. O., January 6, 1886.

MCCAW, W. D., assistant surgeon and first lieutenant. Relieved from duty at Fort Lyon, Col., and ordered for duty at Fort Leavenworth, Kan. S. O. 1 Department of Missouri, January 4, 1886.

SOCIETY NOTICE.

SUFFOLK DISTRICT MEDICAL SOCIETY. OBSTETRIC AND GYNÆCOLOGICAL SECTION. — There will be a meeting of this Section at the large Medical Library Room, 19 Boylston Place, on Wednesday evening, January 20th, at 7.45 o'clock. Communications: Dr. J. E. Kelly, "Remarks on the Phenomenon of Vomiting in Pregnancy." Dr. E. W. Cushing, "Exhibition of Preparations of Septic Bacteria, with Observations on Puerperal Septicæmia." Drs. J. P. Reynolds, A. D. Sinclair, W. E. Boardman, and H. C. Ernst, will take part in the discussions. Refreshments after the meeting.

JAMES R. CHADWICK, M.D., *Chairman.*
ROBERT B. DIXON, M.D., *Secretary.*

DEATHS.

Died in Boston, January 6, 1886, James Henry Whittemore, M.D., M.M.S.S., aged forty-six years.

Died in Ware, Mass., January 10, 1886, Ebenezer Coolidge Richardson, M.D., M.M.S.S., aged sixty-five years.

BOOKS AND PAMPHLETS RECEIVED.

Puerperal Convalescence and the Diseases of the Puerperal Period. By Joseph Kucher, M.D. New York: J. H. Vail & Co. 1886.

Handbook of the Diseases of the Nervous System. By James Ross, M.D., LL.D., F.R.C.P.I., etc. With 184 illustrations. Philadelphia: Lea Brothers & Co. 1885.

Tenth Report of the Salem Hospital. Salem, Mass., 1885.

New York Post-Graduate Medical School and Hospital. Announcement of the Fourth Year, with a Report of the Dispensary and Hospital. Session of 1885–86.

Announcement of the Twenty-Second Annual Course of Lectures of the Medical Department, University of California, with Catalogue of Students and Graduates. 1885.

Twentieth Report of the Board of Trustees of the Connecticut Hospital for the Insane, with the Superintendent's and Treasurer's Reports. By Order of the General Assembly, 1885.

Thirtieth Annual Report of the Trustees of the Northampton Lunatic Hospital, for the year ending September 30, 1885. Public Document No. 21. Boston. 1886.

Original Articles.

CASES OF PERICARDITIS TREATED WITH SALICYLATE OF SODIUM.[1]

BY SAMUEL L. ABBOT, M.D.,

Visiting Physician, Massachusetts General Hospital.

CASE I. Peter M., aged twenty-five; cigar-maker. Entered the Massachusetts General Hospital, March 3d, 1885. His health had been generally good with the exception of an attack of acute rheumatism which lasted five weeks, one year before. For seven weeks before entrance he had had more or less rheumatism with swelling of the joints, compelling him to pass much of his time in bed, to which he had been confined for nine days before admission to the hospital. At that time there was pain in most of the joints. Complexion sallow, tongue pale. The patient smokes to excess, but is temperate in the use of stimulants. Temperature 100.2°. Pulse 130, regular, rather small. There is no dyspnœa.

Physical examination shows cardiac dulness, from half an inch to the right of the sternum to, or slightly beyond the left mammary line. Pulmonic sound not accentuated, but reduplicated at times. A very faint systolic souffle is heard at the base. There is general tenderness of the joints and those of the left index finger are swollen. Urine normal. Salicylate of sodium was prescribed, twenty grains to be taken every two hours. Under this treatment the pain was kept in check until the 8th, the patient on the 7th being found at the time of the visit sitting up in bed reading. The temperature on the morning of the 4th, was 101.9°, and ranged between this and 100.8° on the morning of the 8th, with a pulse of 100. The record of this morning reads: "Above the second left inter-costal space nearly to the clavicle, a soft to-and-fro friction sound is heard. This becomes loud and rough over the base of the heart and diminishes gradually to the apex, where it disappears. A marked systolic endocardial souffle is heard at the apex. There is tenderness on pressure just below the ensiform cartilage but none over the heart. A rough impulse is felt in the third left intercostal space, where a slight pulsation is seen, but none is visible at the apex. Pulse regular, non-compressible. The patient complains of pain in both wrists and some pain in the cardiac region on full inspiration." Ten grains of salicylate of sodium were directed to be given every hour *pro re natâ*, and cantharidal collodion to be applied over the præcordial region; through misunderstanding, however, this was applied over a surface not more than two inches square, causing moderate blistering.

9th. Patient has slept well. Cardiac condition unchanged. Temperature, morning 101°, pulse 96, respiration 37, evening, 101.6°, pulse 106, respirations 38. Salicylate was continued.

10th. Patient has suffered from severe pain on full inspiration and in the region of the heart, which was relieved by a sinapism. There is some pain in the left shoulder. This pain was relieved in the afternoon but the cardiac signs remained the same. Flaxseed poultices were applied over the heart during the day. Morning temperature 100.9°, evening 101.8°; pulse A.M., 106, P.M., 112; respirations 33, 37. Treatment continued.

11th. Patient reported that he had had the best night for some time, and at the time of visit was free from pain. Cardiac signs the same. A dry cup was ordered to be applied over the heart for half an hour. Salicylate of sodium to be continued. Morning temperature 100.6°, pulse 100, respirations 37; evening temperature 101°, pulse 112, respirations 38.

12th. Patient has suffered much during the night from pain in the shoulders and over the heart, but at the time of visit is free from pain in the cardiac region; there is still some in the shoulders. On examination "only a trace of the friction sound" could be heard, about one inch above the apex and mostly with the first sound of the heart; the systolic murmur at the apex has nearly disappeared. Another dry cup was ordered. Temperature in the morning 100.6°, pulse 120, respirations 36; evening temperature 102.4°, pulse 120, respirations 38.

13th. Patient reported that he had had much pain in the cardiac region early in the night, but slept well afterwards, and was free from pain at the time of visit, The friction sound is again harsh and loud over the base of the heart, louder with the systole than the diastole. The area of dulness extends half an inch outside of the left nipple and one inch to the right of the sternum from the second to the fifth intercostal space. Apex beat in the fifth intercostal space inside of the left nipple, heard but not felt. Morning temperature 101.5°, pulse 108, respirations 38; evening temperature 101.8°, pulse 100, respirations 28.

14th. Sleep has been somewhat disturbed by pain in shoulders which was relieved at the time of visit. Pericardial murmur less harsh. Temperature during the day between 99.7° and 100°, pulse 100, respirations 28, 28.

15th. Patient has had some pain during the night but slept well. The record says "The pericardial friction sound has wholly disappeared and there is now no increase in the normal area of cardiac dulness." Morning temperature 99, pulse 100, respirations 23; evening 100.6°, pulse 100, respirations 23.

16th. Has slept well. Some return of pain in the joints to-day. "No pericardial murmur. Endocardial murmur less loud." Temperature in the morning, 100.7°, pulse 94, respirations 24; evening 99°, pulse 94, respirations 23.

18th. Only endocardial souffle detected is a slight prolongation of the first sound at the base. A little pain in the outer left pectoral region to-day. Temperature in the morning 99.2°, pulse 84, respirations 32; evening 99.8°, pulse 86, respirations 22.

19th. Patient quite free from pain. Appetite good. Temperature in the morning 99.8, pulse 80. Evenning 98.7°, pulse 80, respirations 20, 19. The salicylate of sodium was omitted and a pill of two and a half grains of salicylate of cinchonidia, to be taken every three hours, was ordered instead. This was omitted on the 21st, on account of tinnitus, the patient sleeping well and feeling well. On the 23d, there was a slight return of the systolic souffle at the third left intercostal space with some pain and swelling of the joints, the temperature going up to 99.8° and 100°. The salicylate of sodium was resumed in the dose of ten grains every two hours *pro re natâ*. This gave speedy relief and the patient continued very comfortable until the 27th, the salicylate being taken as symptoms required. On this date the only sign of cardiac trouble was a prolongation of the first sound over the base. On the 28th, the temperature was normal for the first time. On the 31st, it was up a little, but there was

[1] Read before the Boston Society for Medical Improvement, January 11, 1886.

no pain. The salicylate was continued on account of the rise of temperature.

April 1st. The salicylate has been continued every two hours up to the time of the visit to-day. The temperature is now normal and there is no endo or exocardial murmur, and no sign of pericardial effusion; the sounds of the heart being normal and distinctly heard, and the area of dulness normal. On April 2d, the patient was discharged well.

The cardiac condition throughout the case may be summed up as follows: —

Possibly a moderate effusion in the pericardium on entrance, March 3d, with slight endocarditis.

8th. A pericardial friction sound heard for the first time over the whole cardiac region and transmitted nearly to the clavicle, with a loud systolic endocardial souffle at apex.

12th. The fourth day after the friction sound was first detected, only a trace of it could be heard, about an inch above the apex; the systolic souffle at this point had also nearly disappeared.

13th. Increase of pain, cardiac dulness and friction.

14th. Less friction sound, accompanied by a slight fall of temperature, it being 99°–100°.

15th. Entire disappearance of friction sound and of the increased cardiac dulness, the loud mitral systolic souffle having disappeared before.

18th. Only abnormal sound detected, a slight prolongation of the first sound at the base, possibly anæmic, which finally disappeared April 1st. Whole duration of friction sound seven days.

Case II. Anna A., a Swede, married, aged twenty-five, was admitted to the Massachusetts General Hospital, May 20th, 1885. Her general health had been good except for an attack of acute rheumatism in 1882, and a second in 1884: the present attack began three weeks before entrance. There had been general pain and joint swellings, and for the last four days considerable pain in the cardiac region. The patient had been confined to bed for a week. She had vomited occasionally and had had an uncomfortable feeling in the head with tinnitus, possibly caused by remedies which she had taken. The patient was well nourished and her color was good. There was swelling and redness of both hands.

Examination of the lungs gave a negative result. There was no increase of cardiac dulness. The apex-beat was in the fifth intercostal space inside of the nipple. A loud to-and-fro friction sound was heard over the heart, most distinct between the second and fourth ribs to the left of the sternum, indistinct at the apex. Pulse of good strength, regular, 82. Temperature 101.2°, respirations 28. Twenty grains of salicylate of sodium were given at intervals of an hour, three times, afterwards every second hour. Vomiting occurred at 6 P.M., accompanied by tinnitus and headache, and the remedy was given less frequently, but three doses being administered during the afternoon and evening. A suppository containing one-sixth of a grain of morphia was given in the evening. The temperature at this time was 100.2°.

21st. The patient was more comfortable. Morning temperature 100.8°, pulse 90, respirations 34.

Salicylate of sodium was ordered to be continued in the dose of twenty grains every two hours with half a drachm of aromatic spirit of ammonia in water. Six doses were taken during the day without any return of vomiting, with relief to the headache, but the tinnitus continued. There was no swelling of the joints and the patient was free from general pain while at rest: pain in cardiac region less, but the physical signs continued unchanged. The treatment was continued. Evening temperature 99.5°, pulse 72, respirations 28.

22d. Patient had slept most of the night, and had taken during the night three doses of salicylate, etc. She was very comfortable at the time of visit. The friction murmur was much less harsh than at first, and was heard loudest at the end of inspiration. The dose of salicylate was reduced to ten grains to be taken every second hour. Morning temperature 99.5°, pulse 72, respirations 30; evening temperature 98.6°, pulse 82, respirations 35.

23d. Patient very comfortable. Temperature normal throughout the day. Pulse 70 to 75, respirations 35 in the morning, 28 in the evening. Treatment continued.

24th. Condition the same. A dry cup was applied to the præcordia for half an hour and was followed by a single application of Tr. Iodinii Etherata to the same region. The salicylate was ordered to be given every hour, the aromatic spirit of ammonia to be given with each second dose. Morning temperature 98.6°, pulse 75, respirations 28; evening, temperature 98.9°, pulse 80, respirations 32.

25th. The patient feels very well, but still has some tenderness in the præcordial region on pressure. The friction sound is less marked and is heard over not more than one-half the area it has heretofore occupied. Morning temperature 98.8°, pulse 76, respirations 30; evening temperature 99.4°, pulse 90, respirations 28. Treatment continued.

26th. The friction sound has nearly disappeared but is still heard at the end of inspiration. There is no increase of cardiac dulness. No nausea nor tinnitus. Morning temperature 99.4°, pulse 88, respirations 29; evening temperature 99°, pulse 78, respirations 27.

27th. Friction sound heard only occasionally, at the end of long inspiration; disappeared entirely in the afternoon. Morning temperature 99°, pulse 79, respirations 27; evening temperature 98.3°, pulse 81, respirations 30. The dose of salicylate of sodium was reduced to fifteen grains, three times during the day, and the aromatic spirit of ammonia was omitted.

28th. General condition the same. No return of friction sound. Temperature normal morning and evening. Pulse in the morning 80, in the evening 72, respirations 29 and 25.

29th. Temperature normal, and the patient sat up half an hour. No endo or exocardial murmur can be detected. The salicylate was continued.

June 1st. A soft systolic murmur was detected in the third left intercostal space. The dose of salicylate was reduced to ten grains, three times a day, and in addition Tr. Ferri chlorid. m x. ter in die was prescribed.

2d. Patient doing well, salicylate omitted.

3th. Some complaint of pain in the left shoulder and the salicylate was resumed, ten grains to be taken every two hours *pro re natâ*.

On the 9th the record reads, "patient has been up and dressed for several days and feels well." The salicylate was omitted. On the 11th she went out of doors, and was discharged well on the 13th, without any abnormal cardiac signs.

The principal points in this case may be summarized as follows: —

Rheumatic attack of three weeks standing, with pain in cardiac region for four days before admission to hospital, on the 20th of May. Some cardiac friction sound detected without abnormal cardiac dulness. Salicylate of sodium given in full and frequent doses, causing vomiting with headache and tinnitus. Continuance of the salicylate with the addition to each dose of half a drachm of aromatic spirits of ammonia; — a remedy, I would remark in passing, which hardly ever fails to control the nausea and vomiting which so frequently result from the use of salicylic acid in its various combinations. Gradual diminution of the friction sound until its entire disappearance on the afternoon of the 27th, the seventh day of treatment, with gradual fall of temperature to normal. A slight anæmic murmur June 1st, which was treated with iron, and had entirely disappeared on the 11th, when the patient was discharged well.

It will be noticed that the salicylate of sodium was continued after the patient was free from pain and the temperature was normal, solely on account of the continuance of the friction sound,— a circumstance indicating the importance of a continuance of auscultation in these cases, even when the subjective symptoms do not seem to call for it. Its action was also kept up four days after the friction sound had disappeared. The exact duration of the pericarditis in this case cannot be determined, as the signs were present at the time the patient entered the hospital; but they disappeared in one week after that time. There was no evidence of pericardial effusion at any time.

CASE III. R. D., a woman, of middle age. This patient entered the Massachusetts General Hospital, April 12, 1885, suffering probably from a contracted kidney as indicated by the following history. For four weeks before entrance she had more or less headache, with frequent vomiting, vertigo, pain in the lumbar and dorsal regions. There had been dyspnœa for two weeks, during which interval there had been two or three convulsions. The eyesight was dim at times and the sleep had been disturbed. There had been no hæmorrhage and there was no œdema. Tongue dry and thickly coated. Pulse rapid, small.

On physical examination there was found cardiac dulness from the second right rib down to the fourth interspace, at which point it extended one and a half inches to the right of the sternum, the apex dulness extending to the mammary line. There was great tenderness over the lower cardiac area. A loud to-and-fro friction sound was heard over the base, which became distant and obscure at the apex. There were signs of œdema in the lower part of both lungs. There were frequent twitchings with tremulousness of the fingers and forearms; there was also a strong, somewhat urinous odor about the patient.

The patient's condition varied from hour to hour, and palliative treatment was employed; sinapisms were applied over the heart. Owing to the vomiting it became necessary to administer stimulants and milk with moderate opiates (Tr. Opii. deodoratæ m x) by enema. As an experiment, having in mind the two previous cases of pericarditis, on the 13th an enema was administered consisting of whiskey half an ounce, a raw egg, milk four ounces, in which was dissolved thirty grains of salicylate of sodium. This was ordered to be repeated every four hours, except that the salicylate was to be reduced in quantity to fifteen grains. Three of these enemata were given in all, their use being discontinued on account of the great distress which the necessary manipulations occasioned. They were followed by great exhaustion, the pulse being almost imperceptible. There was frequent twitching of the fingers and at times of the whole arm. The patient was quieted by an eighth of a grain of morphia.

Examination of the urine of the previous day gave the following result: urine pale; specific gravity 1007. A large trace of albumen; sediment in moderate amount, consisting of pus, large round cells and a few hyaline and granular casts.

On the 14th the patient said she was very comfortable, being free from pain. *No friction sound could be detected*, and the heart sounds were clear and distinct. Cardiac dulness as at first.

15th. The friction sound had returned and could be heard from the base half way down to the apex, and under the sternum to the ensiform cartilage. Sounds of the heart perfectly distinct. The salicylic enema was repeated, but a second was not retained.

16th. Patient mildly delirious, as she has been at times during the past two days. Salicin was given by the mouth, and five doses of ten grains each at intervals of two hours were retained, but their further administration was checked by vomiting. Urine of this day twenty-six ounces; specific gravity 1012; pale; a large trace of albumen. Sediment considerable, containing numerous hyaline, fine granular and waxy casts, many of large diameter, and pus.

17th. Cardiac dulness diminished, extending from the third rib down one inch to the right of the sternum, and nearly to the left nipple. Respirations ten, deep, irregular. Muscular twitchings continue. No urine passed voluntarily; seven ounces drawn by catheter at 6 P.M.

18th. Patient gradually failed and died at 8.40 P.M.

Temperature on the morning of the 13th, the day when the salicylate was given by enema, 100°, in the evening 98.2°. It rose to 99° the next morning, was normal in the evening, a little below the next day, and normal on the 18th, the day of her death. The urine varied in quantity from thirty-two ounces on the 13th to fourteen on the 17th, and eight on the 18th. An autopsy could not be obtained.

In this case there was no way of determining the duration of the pericarditis, as the signs existed at the time the woman entered the hospital; the friction sound, however, disappeared entirely after the first day's treatment by salicylate of sodium, to return after the treatment was discontinued. The patient's condition from her renal disease prevented its resumption.

CASE IV. A young lady eighteen years of age, seen in consultation in March, 1885, with Dr. Fuller of Charlestown. She had been suffering for a week with severe acute rheumatism, and at the time when I saw her had marked pericarditis of several days' standing. She was sitting nearly upright in bed, with quick pulse, great dyspnœa and high temperature. I regret that I have not exact numerical data of these conditions. There was extreme cardiac distress, and the region of the heart was so sensitive as not to bear percussion. A loud friction sound was audible throughout this region. She was taking at the time a moderate dose of salicylate of sodium three times a day, having been under salicylate treatment from the outset of her illness, and been actively treated locally by leeches, blisters, etc. At my suggestion larger doses of the remedy were given at short intervals, and as I subse-

quently learned from her physician, with marked benefit in twenty-four hours, and total relief in forty-eight hours; at which time there was no friction nor evidence of effusion, and the sounds of the heart were normal.

My apology for offering these few cases of this formidable cardiac affection is its comparative rareness in acute rheumatism since the specific salicylic acid and its compounds came into general use, and the fact that it is still generally regarded as one of the most intractable affections of the heart; likely to be, if not in its immediate results, certainly in the possibility of grave disability afterwards, one of the most serious.

I think I am justified in saying that at the present time all grave cardiac complications in acute rheumatisms are much less frequent than formerly; certainly this has been my own experience, strongly sustaining the hope and expectation which the first use of the salicylic remedies was calculated to encourage, that in the time to come their use would prevent the development of a very large proportion of these grave cases. A single fact gives great force to this conviction in my mind. During my four months service in the Massachusetts General Hospital in the spring of 1875, the year before Traube first recommended salicylic acid as a remedy for acute rheumatism, there were four deaths in my wards, of rheumatic patients, from pericarditis, with high temperature and coma. Since that time, a period of ten years, in the record of one hundred and eighty-four cases of acute rheumatism in all, in my service, I find the history of but eight cases of pericarditis. Of these one entered with this affection and remained three months, the physical signs having disappeared when he was discharged. No specific treatment was employed. A second also had pericarditis on entrance, the signs clearing up sixteen days after, but not disappearing so as to warrant his discharge until a month from that time. No specific treatment. The third entered with friction and effusion which continued for twenty-three days, when he was discharged. No specific treatment. The fourth had been ill two months on entering the hospital, with great effusion, and died on the second day after. In the fifth, pericarditis appeared several days after entrance, with rheumatic bronchitis, and the friction sound continued until his discharge four weeks later. No specific treatment. The sixth entered moribund with pericardial effusion and died the same day. No treatment. The remaining two cases are reported in this paper. In speaking of the majority of these cases as not having had specific treatment, I mean that the ordinary salicylic treatment which they all had, was not pushed with special reference to the cardiac affection. I cannot help thinking that the fact that there were no deaths among them, except the two that entered at the point of death, is significant as showing that the severity of the attack was probably modified by the previous treatment for rheumatism.

It would seem *a priori* that such remarkable specifics as salicylic acid and its compounds are for the inflammation and pain of acute rheumatism, should control all the symptoms which may ordinarily manifest themselves in its course, including the cardiac affections, which are as much a part of the attack as the joint pains and inflammation. In fact, they may be the first manifestation of it. And yet this conviction does not seem generally to have struck the medical mind.

With regard to pericarditis, I need hardly say that all Systems of Medicine regard it as the gravest possible complication in acute rheumatism; and yet even the latest authorities have little to offer to combat it but the old weapons of bleeding and blistering, digitalis, and other palliatives; no value being attached to the salicylic specifics. Thus Bramwell, in his admirable treatise on Diseases of the Heart and Thoracic Aorta, p. 339, American Edition, 1884, in speaking of the treatment says: —

"The treatment appropriate to the primary affection must, at the same time be persevered with. There is, however, one very important exception to this general rule, namely, that in rheumatic cases the further administration of the preparations of salicin, more especially salicylate of soda (for, according to Dr. Maclagan, salicin itself does not depress the heart), should be dispensed with. The diet should be light and nutritious, consisting chiefly of milk and soup."

Dr. Da Costa also, in his valuable contribution to the third volume of Pepper's System of Practical Medicine, on Diseases of the Pericardium, in speaking of the treatment of pericarditis, says: "but here let me at once record the more than uselessness of the salicylates. They have no influence when pericarditis has arisen, and if salicylic acid or its compounds are being given they should at once be stopped. The alkalies have a far better action." And in the discussion on rheumatism at the last meeting of the British Medical Association, reported in the Medical Record of September 5th, 1885, it was claimed that salicylate of soda has no effect on the cardiac complications of this disease.

Although the cases I have offered are too few to generalize from, I cannot resist the conviction that the rapid disappearance of the symptoms and the remaining sound condition of the affected organ are due to the power of the remedy employed. It may be said that these were mild cases, likely to be amenable to treatment. So far as the sufferings of the patient and the indications of fever are concerned this may be said to have been true to some extent of the first two, but certainly not of the last two. But why were the first comparatively mild? I cannot help thinking it was because they had been under salicylic treatment for rheumatism from the first, and that the attack of pericarditis was essentially modified by its influence. The latter two were severe, yet in these the disappearance of the physical signs was even more prompt than in the others. I cannot believe that the local treatment employed in the first two cases had any material influence on the result. It was certainly not of a very active character, and was used mainly for a palliative purpose. In the fourth case the most active local treatment had given no relief. In neither of them was there any evidence of constitutional depression caused by the treatment except in the third, the case of advanced Bright's disease.

It is an interesting question what was the condition of the heart which caused the friction sound in these cases. There has been much discussion on the general subject, some writers claiming that a simple dryness of the pericardium may be sufficient to cause it; others contending that the surface must be roughened by an effusion of lymph. The cause is likely to vary in different cases, and perhaps may not have been the same in all of these now reported. In the first there was no serous effusion detected at any time, but it is

impossible to say how long the friction sound had existed before the patient came under observation. If it had existed several days there may have been a deposit of lymph, although the likelihood that the patient may have taken salicylic acid in some form makes this point uncertain. At any rate the complete disappearance of this sign in a few days, without any evidence of adhesion or serous effusion remaining, would seem to show that the remedy employed possibly has the power of causing absorption of even this refractory product of inflammation. In the second case the varying intensity of the friction murmur would seem to indicate as its cause something of a more transitory nature. If the experiment is tried of rubbing the finger across a dry window-pane no sound is elicited; but the slightest moisture on the finger will at once bring out a creaking sound of friction. Is it not possible that a very slight exudation of serum on the surface of the pericardium may develop a similar sound in the same way? In the third case the friction sound disappeared within a few hours for an entire day — a result hardly likely to have occurred if the cause were not of a nature to undergo a very rapid absorption.

It was my purpose in following the treatment employed in these cases to push it to the extreme of endurance on the part of the patient, feeling that risk of injury from it was far less than that from unchecked pericarditis.

SIX SUCCESSFUL CASES OF OVARIOTOMY.

BY J. G. PINKHAM, M.D., OF LYNN.

THE operations described below occurred consecutively during the year ending with the date of the last case. With the exception of one fatal case previously reported, these are all the ovariotomies that it has fallen to my lot to perform.

In the management of each case, an attempt was made to carry out the general principles of antiseptic surgery with the most scrupulous exactness. Instruments, sponges, the hands of the operator and his assistants, all things, in fact, that could, by any possibility, become the bearers of contagion, were thoroughly cleansed and disinfected. The carbolic spray was used in the room, but was not allowed to play directly upon the wound. The strength of the carbolic solution employed in the atomizer was two and a half per cent.; for instruments and hands, five per cent.; for sponging abdominal cavity and wound, not more than one-half per cent. Lister's dressings were applied, and over them, several layers of sheet-cotton, broad strips of adhesive plaster, and a flannel bandage. The incision through the abdominal walls was made in the median line, and as short as was thought to be consistent with a speedy and correct performance of the operation. Great care was taken to stop all bleeding as it occurred. To effect this, I used in imitation of Dr. Homans, Langenbeck's serres-fins, with strings, and pieces of sheet-lead attached to keep them from getting lost in the abdominal cavity. When necessary, ligatures of catgut, or fine silk, were applied. The pedicle, when any existed, was tied with braided silk in two portions. It was then cut short, held with Dawson's clamp, and the end seared with Paquelin's Thermo-Cautery.

Great care was taken to cleanse the peritoneal cavity of blood, and of cystic fluid, when, by chance, any of the latter had escaped into it during the operation. The wound was closed by deep sutures of silver wire, which included the peritoneum, and by superficial ones of silk, when these were necessary, in order to bring the cut edges of the skin into exact apposition. As a matter of convenience, the operations were all, with one exception, performed upon a Crosby bed, the patient being allowed to remain upon it during the after treatment. No nourishment was given, as a rule, for twenty-four hours or more after the operation, but stimulants were employed *per rectum*, when needed. As an anodyne, reliance was placed mainly upon suppositories of bimeconate of morphia, as this agent had been found, in my hands, to produce less unpleasant after-effects than most other opiates. In these operations, I have had the assistance, at different times, of Dr. Wm. G. Wheeler, of Chelsea, and of Drs. Lovejoy, Emerson, Colman, Sheldon, Stevens, and Little, of Lynn. I feel myself under obligations to all these gentlemen, more particularly to Dr. Lovejoy, who placed two of the cases in my hands, and helped me materially with all; and to Dr. Wheeler, without whose wise counsel, born of a large experience in ovariotomy, it would have been much less easy for me to extricate myself from the difficulties presented in the third and fifth cases.

CASE I. Mrs. M., aged thirty-seven, a shoe-stitcher by occupation, consulted me in June, 1884. She was married, and had two children, aged respectively, twelve and fourteen years. At the age of twelve, she had scarlatina, among the persistent sequels of which were impaired hearing, and a tendency to diffused spasm of the facial muscles. Menstruation was generally regular, and normal in amount; but occasionally, there was a delay of a week. Urine normal. Patient anæmic, and subject to fainting spells, with a partial loss of consciousness. On examination, the lower part of the abdominal cavity was found to be occupied by a well-defined, fluctuating mass, which extended nearly to the umbilicus. According to patient's statement, the abdomen had begun to enlarge something more than a year before, but the greater part of the increase in size had taken place within the preceding six months. As all the physical signs of an ovarian cystoma were present, the diagnosis was made without difficulty. Removal was advised after a short course of tonic treatment.

The operation took place on the 19th of September, 1884, at the patient's home in Lynn. Incision two and a half inches in length. The tumor proved to be an oligo-cyst, without adhesions. Weight, five and a half pounds. One of the small cysts had been ruptured previously to the operation, and its semi-solid contents were sponged out of the abdominal cavity. The walls of this cyst were very thin, and it is not improbable that the rupture occurred while the patient was being moved just before the operation. Pedicle long. Other ovary healthy. Wound closed by four deep, and three superficial sutures. The patient bore the ether well, and rallied promptly after the operation. At 4 P. M., five hours after operation, vomiting took place, attended by a slight collapse, as a result of the nausea. This soon passed off. During the first night, there was a little pain, which was quieted by a rectal suppository, containing one-quarter grain bimeconate of morphia. After this, no anodynes were required. About six hours after the operation, the temperature rose to 100.5° F., but four hours later, it had fallen to 99.8°,

and never afterwards reached 100°. No nourishment was given until the morning of the second day. Convalescence proceeded without interruption, or notable incident. The superficial sutures were removed on the seventh, and the deep on the ninth day. In three weeks, the patient was able to sit up, and soon afterwards, to move about the house. She has been in an improved state of health since, and is now engaged in her old occupation of stitching shoes.

CASE II. Miss M. E. C., aged twenty-four, shoe-stitcher. Father a paralytic; mother dropsical. Had one brother who was healthy. Her own general health had been fair. She first noticed the tumor in July, 1883. Had no unpleasant sensations, except slight pain, and "a sort of prickly feeling" in the left leg. Menstruation irregular. Amount normal. Bowels regular, and appetite good. No change had been noticed in character or amount of urine. Heart, lungs, and kidneys healthy. Admitted to Lynn Hospital, October 7th, 1884. Operation, October 8th, at 11 A. M. Incision two and a half inches in length. The tumor proved to be a monocyst, weighing, with its contents, fifteen pounds. Pedicle long. No adhesions. Wound closed by five deep, and four superficial sutures. Vomiting occurred only once. The temperature never rose above 100° F., and there was no interruption to convalescence, except that on the twelfth day after the operation, menstruation occurred, accompanied with pain and swelling of the left leg, and a rise in temperature (99.°5 to 100°). These symptoms subsided in a few days. The wound healed throughout by first intention. At the end of four weeks, the patient left the hospital in fair health. She has since become fleshy and robust looking, and has returned to her former occupation.

CASE III. This patient was placed in my hands by Dr. Francois, of Saugus. She was a married woman, thirty-five years of age, who had formerly worked in a shoe-shop, but was at that time doing her own housework. She had never borne children, but had miscarried once shortly after marriage. Menstruation began in her twelfth year, and was regular up to the thirty-first year, at which time it became more frequent, the intervals varying from one to three weeks in length. Amount at each period normal. At the time of my first visit, December 10, 1884, she was just recovering from an attack characterized by gastric disturbance, pain and tenderness over the duodenum, frequent micturition, and considerable elevation of temperature. She stated that she had been subject to such attacks for several years; otherwise her general health had been good.

Some six years before she had noticed a small lump in the right ilio-hypogastric region. This increased slowly and in three years was as large as a child's head. At that time she consulted an eclectic physician who tapped the tumor, and drew from it a dark fluid, looking like molasses and water. Six weeks later he tapped again, and subsequently, injections were made into the sac with the purpose of effecting its obliteration. In two years the tumor was as large as before the tapping. After this it increased to some extent in size. On examination it was found to occupy the hypogastric and right iliac regions, and to extend obliquely upwards towards the right, through the umbilical into the lumbar region. It was somewhat movable from right to left but seemed fixed above and below Fluctuation distinct throughout. Contour uniformly rounded. There was an area of tympanitic resonance to the right of and above the tumor. By the vagina the growth could not be felt occupying any part of the pelvic cavity. The uterus was retroverted, and not notably enlarged. The urine was found to be acid and slightly albuminous. Its specific gravity was 1020. It contained an excess of earthy phosphates, and, as seen by the microscope, pus in considerable quantity, vaginal and vesical epithelium and bacteria, but no renal casts. The nature of the tumor in this case seemed doubtful, but a careful consideration of all the facts presented, led to the conclusion that it was an ovarian monocyst with extensive adhesions fixing it to the right side. An immediate operation for removal was advised, with a guarded prognosis as to the result. Operation January 8th, at a room procured for the purpose in Saugus Centre. Drs. Wheeler, Lovejoy and Francois were present and assisted. Incision in the median line midway between umbilicus and pubes, about three inches in length. The tumor thus disclosed was shown to be covered by an extremely vascular envelope, which, when followed to its connections by the hand passed within the abdominal cavity, appeared to be continuous on all sides with the peritoneum. No pedicle could be discovered, and the mass was no more movable at its upper than at its lower end. There were slight adhesions of the vascular covering to the parietal peritoneum at the site of the old punctures. The cyst was evacuated by a small trocar and canula. Fluid dark colored, hæmorrhagic, somewhat viscid. At Dr. Wheeler's suggestion the finger was thrust through a thin place in the covering of the cyst, high up, a strip of the same separated, tied in two places, and cut between the ligatures. This process was repeated on each side of the opening until the empty sac could be drawn out. The remaining portion of the envelope was then treated like an ordinary pedicle. No blood to speak of was lost in thus dealing with the vascular covering of the tumor. The tumor was a monocyst of which the lining membrane showed a distinct papillomatous structure. Wound closed by five deep and five superficial sutures. The patient had unfortunately taken some milk contrary to advice just before the operation. As a consequence she vomited while under ether, and several times on coming out from under its influence. The usual course of after-treatment was pursued, but for the first week the stomach was so irritable that it was found necessary to nourish the patient almost wholly by enemata. The injection consisted of a gruel made of Bartlett's pepsinated nutriment, with Valentine's meat juice, and brandy. A little deodorized tincture of opium was given with the enemata, when necessary to allay pain and procure sleep. Soon after the operation the abdomen became very tympanitic, so much so as to produce a decided tension upon the sutures. On the eighth day the patient took and retained a little koumiss. As there was a marked redness about the sutures they were removed and the wound secured by numerous long strips of adhesive plaster. On the ninth day menstruation began. Vomiting had occurred once and the bowels had moved spontaneously during the night. On examining the wound it was found to have reopened to the extent of an inch and a half in the central portion, and a dark, liquid, looking like the product of a broken down blood clot, to have escaped, to an estimated amount of two drachms. The plaster was reapplied and the edges of

the gaping wound drawn together, an opening being left for drainage.

From this time on for a period of about three weeks the history of the case, which it would be tedious to give in full, was that of a mild septicæmia, characterized by an irregular temperature, scarcely ever rising above 101° F., by occasional chilliness, sweating, nausea, and diarrhœa, by an attack of sub-acute pleurisy on the right side at one time, and by pain and swelling of the left leg at another. The treatment was directed mainly to supporting the patient's strength. She took by the mouth such delicate nourishment as she could retain, with light stimulants; by the rectum, when diarrhœa was not present, the enemata mentioned before and quinine suppositories. The wound was dusted with iodoform and dressed with tarred oakum. It filled up slowly with granulations and healed.

The wound was, in my opinion, the source of the septicæmia. There was no evidence at any time of peritonitis. After the wound reopened a portion of the omentum and intestine could be seen, and they were not reddened. There was no disposition manifested at any time to a hernial protrusion. It is not improbable that the whole trouble came from the milk which the patient took before the operation. She was subject to dyspeptic attacks, as before stated. One of these the ether caused by preventing the digestion of the milk. From this came the distension of the abdomen and the irritability of the stomach. The distention drew upon the wound, perhaps causing a little bleeding between the lips, and the formation of a clot, which afterwards breaking down was the source of the reopening, the septicæmia and the slow healing. As a result of all this the patient was eight weeks in getting well, instead of four, as might have been the case under other circumstances. She went to her home on the 10th of March, and has been in good health since.

CASE IV. Mrs. F., of Peterboro', N. H., housewife, aged seventy-one, was admitted to Lynn Hospital on the 24th of April, 1885. She stated that her abdomen had been enlarging for more than ten years. Her general health, however, had been pretty good, and she had not experienced much inconvenience from the growth, until it became so large as to trouble her by the weight and pressure. Her face and the upper parts of the body were much emaciated, but her eyes were bright and mind clear. Appetite and digestion fair. Urine normal. Heart and lungs sound. Abdomen very much distended; superficial veins prominent; ribs widely separated by the crowding upwards of the tumor. Diagnosis, ovarian monocyst. Operation for removal April 25th. The abdominal walls were found to be thin and the peritoneum dry and leathery in appearance. The tumor proved to be a monocyst, as was thought. Its contents were as clear as spring-water. Specific gravity 1010. The pedicle was on the left side and rather short. Uterus and other ovary atrophied, low down in pelvic cavity. No shock attended the operation, and but little fever followed. On the seventh day the superficial sutures were removed and on the ninth the deep. Wound firmly united throughout. There was a little redness around some of the suture points. The patient did well in every respect until the twelfth day. She then experienced a chill, and her temperature rose to 103° F. These symptoms were coincident with the occurrence of a light attack of erysipelas which began at the wound and spread slowly over a considerable portion of the front and sides of the body. It was of a mild type and did not cause vesication. The constitutional symptoms were not severe, there being no suffering, and nutrition not being notably disturbed. The temperature after the first day gradually fell and did not again rise so high.

The treatment consisted in the administration of quinine, malt, stimulants, and nourishing food, and locally to the wound iodoform, and to the inflamed surface beyond, a paste made of salicylic acid, alcohol and water. Convalescence was delayed for nearly two weeks by this occurrence. At the time of the outbreak there was a case of traumatic erysipelas in a remote part of the hospital establishment, and the disease was somewhat prevalent in the town as an idiopathic affection. A considerable discharge of pus took place from several of the suture holes during the progress of the erysipelas, and subsequently. On the 1st of June the patient was able to leave the hospital. She is now in the enjoyment of excellent health for a person of her years. The tumor weighed nearly sixty pounds, and the patient after its removal scarcely more. The history of this case, and the result of the operation show for what a length of time the system will tolerate a slowly growing monocyst without suffering serious derangements, and, also, what a marked power of endurance for surgical operations and for disease is sometimes possessed by aged people.

CASE V. This patient was first seen by me January 25th, 1885. The notes of the case as taken at the time are given below. "Mrs. C., aged forty-four, married. Has lived apart from her husband for the past five years. Has had four children, the youngest being now twenty years old. Had one miscarriage sixteen years ago. Menstruation began at age of sixteen. Always had considerable flow, never less than fifteen napkins, sometimes twenty-one. Always regular until six years ago, when she went three months without menstruating, and then came around as usual. Since that time she has been very irregular, the intervals varying from two weeks to several months. Sometimes the flow has been profuse, and once it lasted six weeks. She has now been six weeks over her time. Her father died an insane suicide at the age of fifty-two. Her mother died of 'dropsy of bowels.' Three sisters have died; two before patient's recollection; one insane. Three sisters are living; one has a 'tumor of the bowels,' another never menstruated, and is dropsical, the third one is well. The patient has a small tumor in the back, a lump of the size of a hickory-nut in the left breast, below the nipple, quite hard, movable. About seven years ago, she discovered an enlargement in the lower part of the abdomen nearly in the median line, which increased in size from that time forward. Five years ago she consulted a distinguished physician, who diagnosticated 'a tumor,' and advised against any attempt at removal. Some time later she saw another physician who thought the disease ovarian, and advised removal. Five months ago she put herself under the care of an eclectic physician, of Boston, the same one, in fact, who had treated patient No. III. He tried to cure by injections into the substance of the tumor. Since this treatment was begun, the tumor has seemed to grow faster than ever. The injections were given twice a week for two months. Patient never had any severe sickness, but is subject to a cough in winter. On examining the abdomen it is found to be irregular in con-

tour. On the right low down is a rounded, firm-feeling mass about as large as a cocoanut. On the left is a small rounded mass which seems to be solid. Above, fluctuation is detected, more distinctly in some parts than others. Percussion sounds tympanitic in both loins, and on left above the small, round mass, nearly to umbilicus, and downward (as patient lies on back), to the loin. Between the umbilicus and the ribs, towards the left is an area of tenderness. At this point injections were made, as, also, into the hard mass on the left below. On digital examination the pelvic cavity is found completely filled with a solid-feeling mass which gives no sense of fluctuation to the finger. The cervix uteri, reached with difficulty, is found high up, and far over towards the left. Bimanual examination indicates that the round mass in the left iliac region is the fundus uteri. Uterus moves when abdomen is pressed upon. After repeated trials cannot succeed in passing the uterine sound. It enters about one and a half inches, but beyond this point, on account of the extreme curvature required to reach the os, it will not go. The attempt causes quite a free flow of blood."

The history of this case and the physical signs seemed to point somewhat strongly to the diagnosis of uterine fibro-cyst. At my suggestion the patient consulted Dr. Wheeler, who thought the diagnosis doubtful, and advised aspiration to determine the nature of the fluid in the cyst. This was done on May 23d, the fluid proving to be brownish in color, and slightly sticky to the finger. Heat and nitric acid caused a dense coagulum to form, but no spontaneous change occurred on standing, except the deposit of a layer of sediment on the bottom of the bottle containing the fluid. Sp. gr. 1025. Under the microscope numerous ovarian corpuscles were seen, with granular matter, the debris of broken-down epithelial cells, and some blood. As a result of this examination, the tumor was decided to be ovarian, and an attempt at removal was advised. Operation at No. 10, Norcross Ct., Lynn, June 2d, 1885. Present, Drs. Wheeler, Emerson, Lovejoy, Colman, Stevens and Little. The tumor proved to be a multilocular ovarian cyst, bare and non-adherent above, below invested with an extremely vascular peritoneal layer, and closely adherent on all sides in the pelvic cavity, and to the uterus, which it had drawn up, and crowded far over to the left. The *fundus uteri* was, as supposed, the small round mass which had been felt above the pubis. The cyst was evacuated with an aspirator. From the large sac above, three quarts of brownish fluid, like that obtained before, were drawn. A smaller sac furnished a pint of milky-looking fluid. Several small loculi contained a clear liquid. The pelvic portion of the growth which had been thought to be solid, was found to have very thick and dense walls, and to be closely wedged into the pelvic cavity. The tumor was removed by laboriously separating the peritoneal layer with the finger in strips, tying in two places, and cutting between the ligatures, as in case III. Any hæmorrhage that occurred during the process was arrested for the time, by Pean's forceps, or the serres-fins, so that but a very trifling amount of blood was lost. The adhesions to the pelvic organs were so close that it was not thought safe to attempt to separate them. Hence the cyst wall itself was tied in sections and left. The pelvic cavity now being thoroughly cleansed, a glass drainage-tube of about one-half inch lumen, and slightly bent, was passed to the bottom of Douglas's fossa, and the abdominal wound, which was about three and a half inches in length, closed in the usual manner. One suture was passed below the drainage-tube, and the ends of the wire being tied around the tube, were made to hold it securely in place. The antiseptic dressing was applied as usual. The ligatures used were not counted, but it was thought that at least twenty were left within the peritoneal cavity. The patient bore the long operation well, being carefully watched by Drs. Emerson and Stevens, who attended to the administration of the ether, and gave a hypodermic injection of brandy whenever the flagging pulse of the patient seemed to indicate it. At 4 P. M., two and a half hours after the close of the operation, the patient had a pulse of 84, and a temperature of 99.6°. She vomited several times and had some pain, for which she was given a suppository containing one-half grain bimeconate of morphia. She remained fairly comfortable during that night and the following day, taking only a little ice by the mouth, and enemata of brandy, beef juice and pepsinated gruel. On June 4th, the wound was dressed for the first time. All the dressings were found saturated with bloody serum, which had escaped from the drainage-tube in great abundance. Patient suffered a good deal from thirst and nausea. On June 5th, she began to take milk and gruel. Flatus passed per anum. Menstruation began. Temperature in the morning 98.6°. In the evening she vomited and the temperature rose to 101°. The discharge from the tube began to be offensive. Wound dressed with carded oakum. As the history of the after-treatment of this case must be greatly abridged it will be sufficient to say that the patient was visited four times in each twenty-four hours. At each visit the wound was dressed, and the pelvic cavity cleansed. For this purpose a common piston syringe was used, a rubber tube being attached to the nozzle, by means of which all the fluid that could be reached was drawn out, and the cavity then washed out by a weak solution of chlorinated soda, carbolic acid, or boracic acid. Iodoform was occasionally dropped into the tube. The discharge, at first red, gradually lost its color, and in a week had began to show signs of pus. Later it became distinctly purulent. The sutures were removed on the eighth and ninth days. On removing the suture below the tube, pus escaped by the side of the tube, and ceased to come through it. On the seventeenth day the glass tube was removed, and a fenestrated rubber tube substituted. On the eighteenth day the patient was removed from the Crosby bed to an ordinary one. On the thirty-first day the tube was pushed out by an act of coughing. It was followed by a soft, grayish slough about as large as a man's thumb, several smaller masses of the same description, and an abundance of thick pus. The wound healed by first intention down to the drainage tube. During all this time the patient had a temperature varying from normal in the morning to 100° or slightly less in the evening. A few times it went to 101° or upwards, but soon fell to its usual range. Great care was taken to keep up the strength by suitable nourishment, stimulants, quinine, iron, etc. Notwithstanding the copious discharge of sero-pus, the patient improved steadily, but slowly. Only one ligature was known to have come away. At this date, about five months after the operation, the patient's health is fair, and she is able to be about the

house, and go out of doors, although there is still some discharge from the sinus. The uterus is in *situ naturali*, but is nearly fixed in position. There is some hardness of the vaginal roof on the right side of the uterus, but no mass of induration there. I think it safe to say that in this case the success of the after-treatment was due to the free drainage, which, with the frequent washing out of the pelvic cavity, prevented any notable amount of septic absorption, and the unremitting efforts made to maintain nutrition. I made upwards of two hundred visits to this patient. That she would die was, I think, the feeling at the close of the operation, of every gentleman present, except Dr. Lovejoy, who with characteristic hopefulness, expressed the opinion that she would "pull through."

CASE VI. Mrs. M., a widow, aged fifty, boarding-house keeper, consulted me in December, 1882, giving the following history of herself. She was first unwell at the age of thirteen. Menstruation had always been regular and normal in amount until the menopause, which occurred a few years before. She had one child, then twenty-seven years of age. Some ten years ago, while living in Wakefield, Mass., she consulted Dr. S. W. Abbott, who diagnosticated retroversion of the uterus, and an enlargement of the right ovary. A short time after this, she went to the New England Hospital for Women, and staid two months. She was told there that the right ovary ought to be removed. Acting upon advice received, she went back to Wakefield, and again placed herself under the care of Dr. Abbott, intending to return to the hospital in six months for the operation. At the end of that time, however, she was in so good a state of general health, that she abandoned her design. Has lived in Lynn for the past eight years. On examination, I found a firm-feeling tumor about as large as a cocoanut in the region of the right ovary. Uterus retroverted. Some months later the tumor was found to have increased notably in size, and to be manifest as a rounded mass above the pubes, with distinct fluctuation. On my advice she consulted Dr. Bixby, by whose suggestion I drew off some of the fluid of the cyst for examination, and sent it to him. The result of the examination was negative, and the doctor being at that time in doubt as to the nature of the case kept it under observation until January 1884, when tapping was resorted to. About twelve quarts of fluid, looking precisely like that of ascites, were obtained. This I examined, and satisfied myself that the disease was ovarian. After the tapping, no tumor could be felt, either by palpation of the abdomen, or by vaginal examination. The health of the patient improved after this, and the cyst refilled very slowly, so that it was not until the spring of 1885, more than a year subsequent to the tapping, that she would listen to my proposition for removal. Then she assented, but wanted to postpone the operation until October, or later. By the first of September, however, she had begun to feel so great an impairment of her general health, that she decided to delay no longer. She was still quite stout, but had wasted somewhat, especially about the chest and shoulders. The abdomen was larger than before the tapping. Operation at patient's home in Lynn, September 16th. Incision two and a half inches in length. Tumor an oligocyst with a solid portion at juncture of pedicle. The fluid of the largest cyst was dark brown, that of the smaller ones light colored. The solid portion was about as large as a coffee cup, and so hard as to suggest malignancy. There was one adhesion to the omentum, which required to be legated before it was divided. Weight of tumor and contents about twenty-five pounds. Wound closed by five deep sutures. The operation was well borne. On the second day the temperature went slightly above 100°, but on the third it fell to 99°. On the fifth day there was a slight disturbance of the stomach and bowels, caused apparently by some greasy beef-tea which had been taken, and the temperature again rose to 100°. After this it never went above 99°. The use of the catheter caused a little irritation of the bladder resulting in frequent calls for its evacuation. Apart from these incidents there was no interruption to the convalescence. At the end of three weeks the patient sat up, and is now attending to her household duties. The solid portion of the tumor has been examined by Dr. Colman, and pronounced malignant. As after the tapping in January 1884, no tumor could be found, it seems probable that this malignant growth was wholly secondary, and that it developed subsequently to the tapping. The long time that the ovarian disease in some form had existed would seem to give support to this view. The prognosis in such cases is not altogether bad, if we may accept the statement of Peaslee.[1] A lesson on the advisability of an early removal of ovarian tumors may be drawn from this case. The best time to operate is undoubtedly when the diagnosis is first made reasonably certain.

Hospital Practice and Clinical Memoranda.

CASES OF ANÆMIA.

MASSACHUSETTS GENERAL HOSPITAL.

SERVICE OF E. N. WHITTIER, M.D.

REPORTED BY CHARLES W. TOWNSEND, M.D., SENIOR MEDICAL HOUSE OFFICER.

IN the following cases of anæmia, blood counts were made, from time to time, with a Zeiss hæmatometer, kindly loaned by Dr. H. F. Vickery. In all the counts, the number of blood-corpuscles in the whole number of squares — that is, in one-tenth cu. mm. of the diluted blood — were counted, and, at least, two, sometimes four or more counts were made, and an average of all obtained. With two exceptions noted below, the counts were all made by the reporter.

In the first two cases, the diagnosis of progressive pernicious anæmia was made, although the improvement under treatment in the second case, may be thought, by some, to disprove it. In the first case, the presence of albumen and casts in the urine, might be thought to point to renal disease as the cause of the anæmia, but from the fact that the specific gravity and daily amount of urine showed no serious impairment of the kidneys, and from the fact that the anæmia was so extreme, it seems more probable that the diagnosis of an idiopathic, rather than of a secondary anæmia, is the correct one.

CASE I. The patient, Bridget A., entered the hospital, September 21st, 1885. Forty years old, unmarried, a domestic by occupation; born in Ireland. Family history good. Previous health generally good; had measles and whooping-cough when young, and ery-

[1] Ovarian Tumors, page 181.

sipelas two years ago. Catamenia previously regular; became scanty six months before entrance, and has been absent for four months. Six months ago, began to feel poorly, having a tired feeling in the hips and back. During this time, has vomited nearly every day after eating, the vomitus consisting of food and mucus. Head feels dizzy, especially on exertion, and she complained of a buzzing sound in her ears. Dyspnœa on exertion; slight cough, at times, without expectoration. Slight swelling of feet and legs for six months. Bowels inclined to constipation. No history of hæmorrhages from mucous membranes. Rapidly increasing weakness and loss of color.

On physical examination, the most noticeable point is the extreme pallor, the lips being nearly white. No emaciation, there being a very fair amount of subcutaneous fat. Slight œdema of feet and legs. Tongue clean and moist, but very pale and flabby; pulse rapid, regular, of fair strength. Nothing abnormal on pulmonary examination. Soft systolic murmur at base of heart. No enlargement of heart. Urine is yellow, acid, 1017, contains a faint trace of albumen; slight sediment of leucocytes, a few bladder and vaginal epithelium cells, and a few hyaline and fine granular casts, some with fat globules adherent. The twenty-four hours' amount of urine averaged ℥30, occasionally going as low as ℥20, and once as high as ℥80.

The bowels at first regular, with a tendency to constipation, became very loose during the last fortnight before death, averaging ten or a dozen dejections daily, not controlled by opiates. A dejection on November 5th contained a small amount of blood, this being the only hæmorrhage noticed in the progress of the case. The extreme pallor, gradually increasing, was, however, the marked feature, and the following blood counts, made with a Zeiss hæmatometer in the manner noted above, show the extreme anæmia. The counts showed no increase in the number of white corpuscles, and are as follows:

October 3d.	Average of	2	counts,	630,000	red corpuscles in 1 c. mm.
" 18th.	"	3	"	561,000	"	"
" 27th.	"	3	"	558,333	"	"
Novem. 1st.	"	5	"	536,000	"	"

The basis for comparison being from 4,500,000 to 5,000,000 red blood-corpuscles in one cubic millimeter of normal blood, we have here a diminution to nearly one-tenth of the normal number.

The temperature generally fluctuated between 99° and 100° F., once or twice reaching 101°. The pulse was always above 100, generally in the neighborhood of 120. Respirations from 25 to 30. The patient took a large amount of liquid nourishment, and retained her flesh till the last week before death, when she was able to take but little food, and rapidly emaciated. Iron and arsenic were given for a few days, but were omitted on account of vomiting, which was a very persistent symptom, and was, at first, treated with pilocarpine, on the supposition that it was uræmic, without effect. Morphia in suppository was found to be of the most use in controlling this symptom. Urine and faeces were passed involuntarily for two weeks before death, although the patient seemed conscious and fairly rational to the end.

During the last week, she tossed about and groaned loudly at times, but when questioned, said she was perfectly comfortable. Three weeks before death, the pulse was imperceptible at the wrist for three days, then appeared again feebly, to be absent for two days before death, which took place November 16th. The friends, unfortunately, refused an autopsy.

CASE II. Lucy R., fifty-five years old, a widow, entered hospital July 8th, 1885. History of phthisis, apoplexy and insanity in the family. Previous health generally good. Has had no children or miscarriages. Catamenia ceased five years ago. Had worked hard as a nurse, and had been feeling poorly for a year, and losing flesh and color. The patient entered with a mild attack of peritonitis, and shortly after, developed lobar pneumonia, from both of which she recovered in the course of a few weeks.

The chief points in the physical examination were extreme pallor, with a slight yellowish tinge, amounting to bronzing on the neck and forearms; conjunctivæ of normal color. The urine always contained a moderate amount of blood, even when drawn by catheter, to avoid a possible vaginal discharge. The average analysis was as follows: Acid, dark, 1020, trace of albumen, considerable sediment of mucus, bladder epithelium, and free blood, and although repeated examinations were made, no casts were found, except on one occasion, when a few hyaline ones were discovered. On August 8th, she complained of abdominal pain, and vomited three blood-clots, one as large as a two-ounce bottle. Nothing abnormal was found on abdominal examination, except slight tenderness in the epigastrium. On the 24th of August, she was sent to the Convalescent Home, at Waverley, feeling, at that time, fairly strong. For a week she did very well, but at the end of that time, she again vomited a small amount of blood, and was brought back to the hospital September 7th, in a very weak condition. At this time, the extreme pallor was the chief feature, lips and finger-nails being nearly white. Her urine still contained blood, but no casts, and it was noticed that her gums bled easily. She was put on a full diet, with plenty of milk and eggs, and given saccharated oxide of iron, gr. v, and arsenious acid, gr. 1-40, three times daily. She steadily improved in strength, and also in color, as was evident on ordinary examination, and was also shown by the blood counts given below. Her temperature ranged from 98° to 100.5° F., and her pulse averaged about 90. Her bowels moved two or three times daily, slightly loose. Part of the first count was made by Dr. F. B. Harrington, the second by Dr. Harrington and Mr. F. C. Woodbury; the others by the reporter, and are as follows:

Sept. 10th and 11th.	Average of	4	counts,	1,239,500	red corp. in 1. c. mm.
" 22d and 23d.	"	8	"	2,211,750	"	"
October 2d.	"	2	"	2,262,000	"	"
" 15th.	"	2	"	2,755,000	"	"

There was no increase in the number of white corpuscles.

The treatment with iron was begun September 10th, and the arsenic added September 12th, and the rapid improvement in the blood is noticeable. The fact that she was rapidly losing color before this treatment was begun, although she was under the best hygienic conditions, is certainly significant. The hæmorrhages from the stomach were slight, and insufficient to account for this loss of color, and the escape of blood in the urine and from the gums, continued during the improvement. She left the hospital October 17th.

In the two following cases, the diagnosis of pseudo-leucocythæmia was made, the first purely splenic, the second lymphatic, and in both cases, the improvement under treatment, as shown by the blood-count, is noticeable.

Case III. Alfred M., twenty-five years old, a tailor by trade, entered the hospital September 23d, 1885. A native of Canada, where he has lived all his life, with the exception of the last five years, which were spent in Worcester, Mass. Family history good. With the exception of "slow fever" fifteen years ago, and typhoid fever seven years ago, his general health has been good. Never had chills and fever. Habits unobjectionable. For the last three years, patient has had a cough, with bloody mucous expectoration, and, at times, slight hæmorrhages from gums, lips, and nose, these hæmorrhages occurring nearly every day for the last year. Has never noticed blood in urine, or fæces. Has been weak and short of breath, and able to do but little work for over two years. For the last two years, he has been jaundiced, his urine dark-colored, and his dejections of a grayish-white color, with a slight yellowish tinge. A year ago, his attention was called by a physician, to a swelling in the left side of his abdomen, which has been increasing slowly since. Slight swelling of legs for eight months. Bowels generally slightly loose, averaging three or four dejections daily. Has lost, in two years, about twenty-five pounds in weight. Is free from pain.

The patient is markedly jaundiced and very pale; fairly well nourished; slight œdema of feet and legs. A few bilateral moist râles detected in the lungs, but nothing else abnormal on thoracic examination. Abdomen distended on the left side, where a smooth, hard mass is found on palpation, extending from under the ribs nearly to the median line, and downward to within two inches of the crest of ilium. This area is flat on percussion. A distinct notch is to be felt on the inner edge of the tumor, just above the umbilicus. Deep inspiration causes a descent of the tumor over an inch. No modification in size of liver. The urine was dark-colored, acid, Sp. gr. 1015, bile present in large amount, slight sediment, no albumen.

The treatment consisted of a liberal diet, and acid arseniosi, gr. 1-40, and Pil. ferri carbonatis, gr. iij, three times daily.

The patient's temperature, pulse, and respiration remained normal, and no apparent change occurred in the size of the spleen. The jaundice diminished slightly, and he improved noticeably in strength and color. The daily slight hæmorrhages, spoken of in the history, continued.

The improvement in the blood, as shown by the hæmatometer, was as follows:

October 8th.	Average of 3 counts,	1,814,666	red corpuscles in	1	c. mm.
" 14th.	" 3 "	2,601,333	"	"	
" 25th.	" 2 "	3,982,000	"	"	

The proportion of white to red corpuscles was, at one count, found to be as one white to 348 red; at another time, one white to 770 red corpuscles — that is, within normal limits.

Patient was discharged November 14th.

Case IV. Wilhelmina H., forty-four years old, born in Sweden, married, entered the hospital October 14th, 1885. Family history good. Has previously been strong and well, and has had six children, one miscarriage, and one still-born child within a space of fifteen years, the last child being born four years ago. Catamenia since then have been regular. Three or four years ago, first noticed a small lump in the abdomen, near the navel, and several small ones in groins, axillæ, and especially in neck behind ear, all of which have been gradually increasing in size, the abdominal increase being most marked. During this time, has lost color, flesh, and strength, and has had palpitation and dyspnœa on exertion, most marked during the last year. Has had diffuse abdominal pain, not very severe, and inconstant; diarrhœa alternating with constipation for the last year, the dejections usually preceded and accompanied by pain, but followed by relief; at times, has noticed a slight amount of mucus and blood in the discharges. No hæmorrhages from other mucus membranes. Anorexia and a feeling of fulness after eating. No vomiting, headache, or jaundice. Slight swelling of feet for a few days.

On examination, the patient is found to be somewhat emaciated and pale. Numerous enlarged glands, from the size of a pea to a horse-chestnut, to be felt in the neck, both in front and behind the sterno-mastoid muscle, extending from the clavicle to the ear, where they form a noticeable tumor. Similar enlarged glands in axillæ; one or two near the nipples. Epitrochlear glands as large as the end of little finger. Numerous enlarged glands in both groins, extending down into Scarpa's triangles. None to be felt distinctly in popliteal spaces. Abdomen irregularly and considerably distended, chiefly in the umbilical region. On palpation, several large, firm masses, having a smooth surface, and slightly tender on pressure, are to be felt above and to the left of the umbilicus, and numerous smaller, less distinct masses elsewhere in the abdomen, but chiefly in the umbilical region. Skin freely movable over these bodies, which appear to be movable in the abdominal cavity. Slightly dull on percussion over the largest of these tumors, resonant elsewhere. No increase in hepatic area, and no enlargement of the spleen was detected. Heart normal. Feeble respiration, and a few moist râles at the base of both lungs. Urine normal. The blood-count on entrance, was — average of two counts — 1,649,000 red corpuscles in one c. mm., and the proportion of one white to 824 red corpuscles. She was put on a full diet, and given acid. arseniosi, gr. 1-40, and Pil. ferri carb., gr.iij, three times daily.

During her stay in the hospital, she had, at times, considerable abdominal pain and flatulent distension, due, it was thought, to the obstruction to the movement of the intestinal contents by the pressure of the abdominal tumors — enlarged mesenteric glands (?) — described above. Turpentine stupes, and especially enemata, followed by free dejections, gave relief to the patient. The temperature varied from normal to 100°, staying generally about 99° F. The pulse varied from 90 to 100, the respirations from 30 to 35. There was no apparent change in the size of the numerous tumors during her stay in the hospital, but her strength and color evidently improved. On November 1st, the blood count — average of two counts — was 2,505,000 red corpuscles in one c. mm., and the proportion of one white to 658 red. She was discharged November 26th.

In two other cases where the anæmia was very marked, and was due to definitely ascertained causes, namely, hæmorrhages, the blood was counted, and found to be as follows:

Case V. Catherine S., intestinal hæmorrhage for over eight months.

October 2d.	Average of 2 counts,	981,000	red corpuscles in	1	c. mm.
" 18th.	" 2 "	1,154,000	"	"	

Case VI. Hannah M., profuse uterine hæmorrhages for several years, dependent upon malignant disease. October 3d, one count, 1,478,000 red corpus-

cles in one c. mm. As a check experiment to test the accuracy of the instrument, the blood of a healthy man was also counted, and found to contain 4,680,000 red blood-corpuscles in one cubic millimeter.

TYPHOID FEVER IN SOMERVILLE, MASS.

BY THOS. M. DURELL, M.D., HARV.
City Physician.

DURING the latter part of August a case of typhoid fever occurred in a house just over the city line, in Medford. This house is located in a valley, the land around it which is used for farming purposes, and on which large quantities of night-soil has been used, slopes towards the house. The house is an old one with a damp, musty cellar, and a sort of shed in which is situated the well used for cooking and drinking purposes. The vault, or rather the hole in the ground used as a vault, is situated on a higher level than this shed, and is only twenty-four feet away from the well. This well is, practically, in the centre of this whole slope, and must, necessarily, catch all the filth from it.

The family living in this house at the time of the outbreak of the sickness, consisted of three persons, namely: father, mother and daughter; all of them took the disease, the mother's case proving fatal. The man who worked for this family, and who drank the water from this well, lived in one of four small houses located near this first one. These houses were close together and have one common vault. This man was sick some time before calling a doctor, and all of this time used the common vault.

There was another case in this house, one in the next, three in the third, and one in the fourth.

An analysis of the water from the well when the epidemic started (which was kindly made for me by Mr. Geo. H. Cowdin, of Somerville) showed large quantities of impurities and organic matter, some of these being in such large quantities as to be easily detected in the water as it came from the well without evaporation.

The main point of interest in this series of cases is their probable origin and method of transmission.

Therapeutical Memoranda.

WEIGHTED SHOES IN LOCOMOTOR ATAXIA.

A THERAPEUTICAL NOTE

BY ALLAN MCLANE HAMILTON, M.D., OF NEW YORK.

THOSE of us who are in the habit of seeing locomotor ataxia, especially in its second and third stages, have our sympathies taxed to their utmost, by the helplessness of the tabetic patient and his difficulty of getting about. There is very little to be done at best, and for this reason the case seems sadder than ever.

For such ataxics I have been in the habit during the past four or five years, of suggesting a simple mechanical device which has done so much good, that I think it worthy of publication. I allude to weighting the anterior part of the feet. Many ataxics whose locomotion was exceedingly difficult and distressing, have worn their weighted shoes constantly since I ordered them, and have led far happier and more comfortable lives.

Those at all familiar with the peculiar heel gait of the ataxic, knows that there is more or less weakness of the peroneus longus, and a failure to act against its opponent, the tibialis anticus, which is strongly contracted. Buzzard and Jackson first called attention to this explanation of the disorderly walk which largely depends upon what the former calls the "over-movement of the associated muscles." The use of properly adjusted toe weights serves two purposes — *first*, to overcome the tendency to violent hyper-flexion, *secondly*, to create an exaggeration of subjective consciousness of movement and location. The loss of plantar tactile sensibility is compensated by the perception of weight. In some cases with the adjusted weight it is possible for the patient to walk in the dark, which under other circumstances he could not do.

The weight, which should not be so great as to produce fatigue, may consist of a leaden insole, or of a plate fastened between the soles. A few experimental trials will enable the physician to determine just how much lead is needed, and where it should be placed. For those cases which last some time, the degree of comfort is sometimes very great, and the patient's gait is less apt to attract the attention it would otherwise, thus saving him much mortification and giving him greater confidence.

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. M. BUCKINGHAM, M.D., SECRETARY.

JANUARY 11th, 1886, DR. G. H. LYMAN in the chair.

DR. S. L. ABBOT read a paper on

PERICARDITIS TREATED WITH SALICYLATE OF SODIUM.[1]

DR. FRANCIS MINOT said that salicylic acid and its compounds have so extraordinary an effect in cases of acute rheumatism, that it is reasonable to suppose that they might modify the character and duration of pericarditis. The natural history of the disease, however, shows so variable a duration, that, in order to judge of the effect of a remedy, we must examine a large number of cases in which it has been used.

Da Costa has grounds for the opinion that pericarditis is not influenced by internal medicines. The speaker had had no personal experience in the use of salicylates in the treatment of this affection, but he had been disappointed with the effect of internal remedies in general, when given for its control. He is rather inclined to think that it is a self-limited disease, and, that unless the patient is broken down by rheumatism or otherwise, that the prognosis is good. He is inclined to treat it with external irritants, such as mustard or iodine, but not with blisters.

DR. JAMES AYER agreed with the last speaker, that, in order to form conclusions, we need to judge from a very large number of cases. Much can, of course, be done for temporary relief with morphia and digitalis.

DR. ROTCH remarked that it would be difficult to ascribe, in the third case, the disappearance of the friction sound during the administration of the salicylate of sodium, and its return on the drug being omitted, to the influence of the salicylate; as with the large amount of fluid represented by the readers' percussion in

[1] See page 49 of this number of the Journal.

this case, a slight increase in the quantity of fluid might cause the friction sound to disappear, and an absorption of the same quantity allow it to be heard again.

DR. LYMAN said that pericardial effusion has been looked upon with great dread, on account of its possible results, both present and future. He has, however, been led to change his opinion upon this point; for, while cases are not unusual, and while he has himself seen many recoveries, he has met with no death. He has not made use of any specific treatment.

He asked the Society if any difference has been observed in the effect of salicylates, dependent upon the form of rheumatism in which they had been used. With acute cases having large effusions into the joints, the effect, as is well known, is commonly marked. He had recently had a number of cases of acute fibrous rheumatism, in which there was pain, with heat, redness, and stiffness of the joints, and a dry tongue, but with no effusion; and in these cases, no benefit had been had from the drug. One of them had developed typhoid fever before recovery. The speaker was interested in knowing if any similar distinction had been noticed by others.

DR. ABBOT, in reply to what had been said in the course of the discussion, remarked that at no time had there been effusion enough in either of the cases reported, at least in those that had been continuously under his own observation, to conceal the sounds of the heart. This met the suggestion, that in the course of pericarditis, it might be possible to be deceived by the disappearance of the friction, when it was only muffled by the fluid in the pericardium, and would be likely to reappear when that was absorbed. In the first case, the signs of effusion disappeared with the friction sound. In the second, there was no evidence of effusion at any time. In the third, there was an increase of the cardiac dullness, but the sounds of the heart were not obscured, whatever may have been its cause. In the fourth, by the report of the physician in attendance, the sounds of the heart were perfectly distinct when the friction disappeared.

AN UNCOMMONLY LARGE FATTY TUMOR.

DR. C. B. PORTER said that he had to present to the Society to-night, a tumor, which is exceptional in many respects. It is from a woman forty-seven years of age, and she has carried it for thirty-five years, it having begun to grow at the age of twelve.

Secondly, its size is exceptional. It weighs ten and a half pounds, drained of its blood and of a large amount of serum, and the patient was kept in bed for a week before the operation, in order to reduce the congestion and œdema, both of which were much increased by the upright position.

Thirdly, in its gross appearance, it seems to be a fibromatous lipoma, although no microscopic examination has yet been made.

Fourthly, Bilroth states that fatty tumors are "very rare in children." This began at the age of twelve.

It hung pendulous from the middle of the outer surface of the right thigh, and it was surprising how little it impeded locomotion. Her carriage was such that no one would have mistrusted that she had such a growth, it being perfectly concealed under her skirts.

POISONING BY NUTMEG.

DR. LYMAN said that he had recently seen a woman in a state of hysterical delirium, more or less unconscious of what was going on, and from whom it was impossible to get any history. She was in this condition when discovered by her friends. She had a good pulse. On the following day, when she had recovered, she stated that she had eaten a nutmeg for its supposed effect on menorrhagia, and the speaker learns that there is an impression in the community that nutmeg is of value in that affection. Her symptoms were those that are stated in books to be caused by large doses of nutmeg. There was no effect upon the trouble for the relief of which it had been taken.

DR. BUCKINGHAM said that he had reported a case of nutmeg-poisoning six years ago. His patient had taken two nutmegs, and complained of numbness, a feeling as of swelling of the head, an uneasy sensation at the heart, and drowsiness. Dr. Swift had had, he believed, a case at about the same time.

OBSTETRICAL SOCIETY OF BOSTON.

THE Twenty-fifth Anniversary of the Obstetrical Society of Boston was celebrated by a dinner at Young's Hotel on the evening of January 5th, which was the exact date of the organization of the Society. The Society met at half past six o'clock, and sat down to dinner at seven. All the members were present with the exception of four, who were unavoidably prevented from attending. The President, Dr. A. D. Sinclair, presided, having on his right and left the invited guests, Drs. Fordyce Barker, of New York, Gilman Kimball, of Lowell, and John Homans, of Boston. The post-prandial exercises were opened by the following address by the President, Dr. Sinclair:

GENTLEMEN: — We have met together this evening to celebrate the Twenty-fifth Anniversary of the Obstetrical Society of Boston. It is indeed appropriate that we should make this day memorable, for two reasons: first, because our Society is the earliest organization of its kind in the country; and secondly, because the social element has always been an agreeable feature of its meetings.

Let me then cordially greet you, each and all, assembled on this festive occasion, and especially our distinguished guests, who honor us this evening with their presence.

Our Society was organized during that period of great agitation which preceded the outbreak of our Civil War, and its childhood was more or less disturbed in consequence, like all things else, local and national. The infant Society, therefore, although of healthy parentage, was not robust in its earliest years. In its second and third years especially, signs of feebleness were so apparent as to alarm its promotors, who resolved that an effort be made to strengthen their precious offspring. Its nutrition and surroundings were discussed by the doctors, and change of scene, with cheerful social intercourse were suggested by one of the maturest among them. So earnest, indeed, was this last adviser, (Dr. Benjamin E. Cotting), that he offered to take the starveling under his own roof for a time, in order that a trial be made of the regimen he proposed. The treatment was successful. Others followed in due order, who adopted the same plan, and it soon became apparent that all signs of mental and physical weakness had disappeared from the once feeble body. Our meetings from that time

have been held monthly at the houses of members, during nine months in the year. The scientific and social elements have blended at our meetings. Harmony and good fellowship have ever prevailed, and to be elected a member of the Society marks an era in the history of the candidates.

Of the sixteen (16) original members, the names of five (5) are now on the roll of the Society, namely: Drs. B. E. Cotting, George H. Lyman, John P. Reynolds, Charles D. Homans, and A. D. Sinclair. Seven (7) have died, namely: Drs. Walter E. Channing, John Homans, Charles G. Putnam, Anson Hooker, Charles E. Buckingham, Calvin G. Page, and Lucius M. Sargent. Four resigned.

The Constitution of the Society limits the number of its active members to thirty, who must also be members of the Massachusetts Medical Society.

I might narrate on this occasion much that is interesting in the early annals of our Society, but in so doing, I should only rehearse what has become already familiar to you in Dr. Cotting's history of the first one-and-twenty years of its existence.

I have already indicated that ours is the parent society of its name in the United States. Its inauguration day is not far behind that of the Obstetrical Societies of Berlin and of London. The former celebrated its twenty-fifth anniversary but a few months ago, the latter in February, 1884. By a singular coincidence, the first public meeting of the London Society was held on the same day of the month as ours, namely, the 5th of January, Anno, 1859.

The papers read from year to year, with the discussions which followed, and the numerous less formal communications made, have been worthy of our Society. Never has there been any desire apparent to magnify the individual at the expense of the subject treated; to ascertain the truth of the matter in hand has always appeared to be the salient motive in the work of our organization. Indeed, in a society so limited as ours, one in which the members are personally so intimately known to each other, other than honest efforts could find no recognition.

In a more formal address, I might be expected to review in a measure, the work done by this Society in the past five-and-twenty years. Fortunately for me, I do not feel called on to do that now. I will say, however, that little of what has been done at home or abroad to advance our specialties, has escaped observation, and a stone may have been added to the cairn of science within our own borders. Since the birthday of this Society, the science and art of midwifery has been remodelled and improved. Convulsions, placenta prævia, accidental hæmorrhage, and puerperal septicæmia have lost their terror on the one hand, as has abdominal surgery on the other. The department of diseases of women has adopted a new name, and become almost a new creation. We have, as a nation, good reason to congratulate ourselves that much of that which constitutes this advance has originated within our own country. Yet we can never forget to honor the great pioneers in obstetrics and gynæcology at home and abroad, who, by their genius and labors, have made future research easier for their successors.

It would be proper for me, as I have spoken the names of my early associates who have gone over to the majority, to pay a tribute to their memory on this occasion. This duty I have asked another, better qualified than myself, to perform, who will tell us of men, distinguished in their day and generation, who died beloved and regretted.

The grave has but just closed over all that was mortal of *him* who was *last* admitted a member of this Society. His untimely end has cast a shadow over us. Learned, manly, and amiable, he won the heads and hearts of his associates. In Dr. Frederick Howard Lombard the Society has lost a valuable and promising member, whose memory will not early die.

"Lange leben ist nicht viel leben,
Viel wirken ist viel leben."

We regret that distance, the season of the year, or physical infirmity have prevented many distinguished men, at home and abroad, from being present, the only alleviation for which lies in the spirit of their replies, which will be read to you in the course of the evening.

In concluding these introductory remarks, let me take this opportunity to express my thanks to our Committee of Arrangements, the result of whose labor speaks for itself in this sumptuous entertainment. Furthermore, let me here acknowledge the ready aid afforded me by associates on this eventful occasion in the history of the Obstetrical Society of Boston.

The history of the Society was then sketched by DR. B. E. COTTING, an honorary member, who was one of the founders and who had not long since published an account of its origin and growth.

DR. GEORGE H. LYMAN was called upon to speak to the memory of the deceased original members, and responded as follows: —

MR. CHAIRMAN: — You ask me to say something of the older of the original members of our Society; but though it was my privilege to be associated more or less with all of them, and though they were all men of marked individual peculiarities, I have really nothing to say which has not already been said.

Drs. Channing, Homans, Hooker, Putnam, Buckingham, and others, to whose fidelity we owe it that the Society did not abort in its formative period, were all of them men of large experience and wise foresight, and on such an occasion as this, it would be ungrateful in us not to recall their memory, if nothing more.

Dr. Channing, the oldest of them, the first Professor of Obstetrics at the Harvard School, and the first President of this Society, would have been one hundred years old had he lived to be with us this evening! Imagine if you can for a moment the changes in pelvic pathology, and in our knowledge of the diseases of the uterus, ovaries, etc., since he began to teach obstetrics and gynæcology at twenty-nine years of age. Think of the incredulity which the men of those days would have shown had any one prophesied the then almost immediate future of ovariotomy, hysterectomy and pelvic surgery generally! Ovariotomy was bitterly denounced by some of the best of them as unjustifiable. A reported and apparently well authenticated and successful case of removal of uterus and ovaries was unhesitatingly pronounced *a lie*, the speculum was quite generally considered as a vicious, immoral thing. Dr. Channing, I think, would have been the least incredulous of any of them, for he was always in the forefront of progress, and, being an enthusiast himself, was naturally disposed to contemplate future possibilities with an optimistic vision. He lived to witness the days of ether, and no one could have a better appreciation of the enormous value of such a discovery. His reputation for having wit and quaint diction are familiar no doubt to most of you.

Then came Dr. Homans, with his large practical experience, and that gentle courtesy that made him beloved of all men. I can never forget his pleasant recognition of myself, and his kindly advice as to deportment and personal habits, especially smoking, and though I soon discovered that he himself indulged in tobacco, a fact which took a little from the weight of his advice, it detracted nothing from the benevolence of his motive. He left such loving memories behind among his patients and friends as few others have, and a professional reputation which I am sure we all of us are here glad to recognize as being so worthily perpetuated by his immediate descendants.

Dr. Hooker was another marked character in the professional arena of those days, not so familiarly known, perhaps, in Boston, as his field was in another town, but he was a constant attendant upon our Societies, and those of you who were members of the Massachusetts Medical Society will remember well the deference which was always paid to his opinion on any question of obstetrics, and very naturally, too, for it was discovered later that his midwifery cases numbered nearly if not quite 10,000 — a very rare experience — the deductions from which by an intelligent observer could not have been otherwise than valuable.

Next we have a more recent memory, Dr. Putnam, with his operative skill and his helpful hand to every brother in trouble. Up to his day the use of the forceps was considered almost in the light of a capital operation, a dread alternative for dire emergencies only, and above all things requiring a previous consultation! Two, possibly three pairs were considered quite sufficient for Suffolk County, and any young man adventurous enough to own them was quite likely to be advised to leave them at home for fear of temptation. Dr. Putnam, so far as I know, was the first here to encourage their freer use, and no doubt some here present have a grateful remembrance of his unobtrusive but instructive assistance.

Of Dr. Buckingham, with his caustic pen and positive opinion, if sometimes too aggressive, always instructive, and never wilfully unjust, I need hardly speak, for he was even more of our own time. To appreciate his sterling merits, it was necessary to know him well, and be well known of him. His circumstances made every patient important to him, but never so much so as to tempt to mean or underhand ways, for I believe he was the soul of professional honor. He was one with whom a friend could in an emergency leave his patients with entire confidence. Such being the case, what wonder that any dereliction on the part of others should call forth his keen and cutting sarcasm, vigorously felt and vigorously expressed. He was taken just as the modern field of practice was coming into full view, and he in the full prime of his powers and usefulness.

In the days of the older of the men of whom I have spoken, the word gynæcology was almost unknown. In fact, I well remember a discussion among a small number of the staff in the hospital consulting-room as to its pronunciation, derivation, etc., when a journal bearing that title was produced as a curiosity. What would they have thought of some of the absurd affected nomenclature which has become current since; of Kolpo-Kleisis, Hystero-Kleisis, Hystero-Cysto-Kleisis, Kolpo-Stenotomy, Kolpo-Ecpetasis, Cysto-Ecpetasis, Cysto-Stenosis, Hystero-Ephelkosis-Anakainosis, and all the *-raphy's*, Trachelo, Perineo, etc. How they would have been sent incontinently to their dictionaries! But though many of these terms, and the procedures indicated by them, had not yet risen above the medical horizon, I have as yet seen no statistics proving that the mothers and wives, and especially the young women were very much the losers. I say this with some hesitation for fear of misconstruction, for I am a firm believer in a wise gynæcology, otherwise I should belie a large part of my own professional life. I have practiced it according to my lights for forty years, and under discouragements from my elders which are now happily unknown, but I am bound to confess my belief that many things are done in these days, and especially in the operative way, that had better be left undone. A distinguished hysterectomist in Edinboro, recently told me that he had come to the belief that the operation as now advocated was unjustifiable; that he considered the present mortality as much too high, in view of the fact that the mortality in cases not meddled with was still less, and that he should hereafter confine himself to those rare cases only in which a fatal result if let alone seemed inevitable.

We all know the story of laceration of the cervix, of colporaphy, of discission of the cervix, of electrolysis; we have all heard, on one hand, that the perineal body is after all a myth, and on the other, that the ovaries are of little or no account as a factor in many of the cases, in which a very few years ago they were supposed to be the chief source of trouble.

Probably all these operative procedures and many more which are to follow, were and will be necessary to the proper evolution of the subject, feelers as reaching in various directions to discover the right path, but I also believe that much of this sort of experimentation should be confined to stricter limits and to the hands of those of you who by experience and practical knowledge will be able to evolve from them solid foundations for your successors.

THE FUTURE OF THE SOCIETY

formed the subject of the remarks of DR. ALFRED HOSMER, who was followed by DR. JOHN P. REYNOLDS, who eloquently alluded to the past influences which had so largely contributed to the formation of such a Society, and humorously sketched the possible future of American obstetrics. DR. FORDYCE BARKER responded for the guests of the evening, and DR. JOHN HOMANS replied in behalf of gynæcology. The closing speech of the evening was made by DR. GILMAN KIMBALL, who gave an account of his early ovariotomies.

Letters of regret at their enforced absences were read from Drs. Emmet, Thomas, Lusk, of New York; Skene, of Brooklyn; Goodell, of Philadelphia; H. P. C. Wilson, of Baltimore; J. Taber Johnson, of Washington; D. H. Storer, of Boston; W. S. Playfair, of London; A. R. Simpson, of Edinburgh; G. H. Kidd, of Dublin; T. Lasavewitch, of Kharkoff, and Professor Litzmann, of Berlin. The Society then adjourned, having voted to celebrate the fiftieth anniversary by a similar festive occasion.

— The *Medical Times and Gazette*, one of the four medical weeklies published in London, and one of the most readable of our exchanges, has, we regret to learn, suspended publication.

Recent Literature.

An Atlas of Clinical Microscopy. By ALEXANDER PEYER, M.D. Translated and edited by ALFRED C. GIRARD, M.D., Assistant Surgeon United States Army. First American, from the manuscript of the Second German edition, with additions. Ninety plates, with one hundred and five illustrations. New York: D. Appleton & Co. 1885.

Dr. Peyer's "Atlas" contains eighty-nine plates, illustrating the microscopy of the blood, mammary secretion, secretion of the female sexual organs, urine, sputum, contents of stomach, intestines, and abdominal tumors; and an additional plate, copied from Friedländer, illustrating certain micro-organisms. All the plates, with the exception of the one mentioned, and one other on the examination of blood, are original drawings. Most of the plates are very good; there are some exceptions, however, which detract from the value of the book. Among these, the figures of hyaline and of fibrinous casts may be mentioned as not accurately representing these bodies. The same is true of some of the figures representing the epithelium of the urinary tract. The sediment of the urine in acute parenchymatous nephritis, is not represented satisfactorily. The author has made too much of spermatorrhœa, we think; ten plates (one-ninth of the whole number), illustrate this condition. The text is inferior to the plates, and several of the author's statements are not reliable. A good work on clinical microscopy would supply a real want; we cannot, however, recommend this one as wholly satisfactory.

The translation is, on the whole, well done, though it lacks smoothness in some parts, and one is conscious, when reading the text, that it is a translation. The publisher's part of the work, it is, perhaps, needless to say, is above criticism. The plates are well executed, and the book is well printed on good paper. In these respects, the volume is a very attractive one.

Practical Suggestions Respecting the Varieties of Electric Currents, and the Uses of Electricity in Medicine, etc., etc.. By AMBROSE L. RANNEY, M.D., Professor of the Anatomy of the Nervous System in the New York Post-Graduate Medical School and Hospital, etc., etc. New York: D. Appleton & Co.

This very long title covers a small book of about one hundred and fifty pages, which gives a pretty fair *résumé* of what has been written recently about the practical methods of applying electricity in medicine. It would have given sufficient information if the references to the makers of instruments had been omitted from the text, as well as from the illustrations, and, in our opinion, would have been in better taste.

A Guide to the Practical Examination of Urine. For the Use of Physicians and Students. By JAMES TYSON, M.D. Fifth edition. Revised and corrected. With colored plates and wood engravings. Philadelphia: P. Blakiston, Son & Co. 1885.

The rapidity with which successive editions of this manual are exhausted, proves that it supplies a demand. The present edition has been carefully revised and somewhat enlarged. The new tests for albumen, which have been suggested during the past few years, have been introduced; also additional tests for sugar — namely, the picric acid and potash test, and the indigo-carmine test. Place has also been given to the determination of sugar by polarimetry, and to the consideration of mucin, peptone, inosite, levulose, lactose, and acetone and acetone-producing substances. We have had the pleasure of recommending the earlier editions of this book, and it is sufficient to repeat the opinion we have so frequently expressed, that it is an excellent book; the best of its kind in the English language. It should be owned by every practitioner and student of medicine.

An Introduction to the Study of the Compounds of Carbon; or Organic Chemistry. By IRA REMSEN, Professor of Chemistry in the Johns Hopkins University. Boston: Ginn, Heath & Co. 1885.

We recommend the book as one well adapted to the needs of those who are beginning the study of organic chemistry. The number of compounds treated of is smaller than is usual in works on organic chemistry; the compounds selected being such as best serve to make clear the fundamental principles of the science. The author has endeavored throughout to present the subject in such a manner as will lead the student to see for himself the reasons for adopting the prevalent views in regard to the structure of the carbon compounds. More than eighty carefully-selected experiments, such as may be performed in any chemical laboratory, are described, illustrating the methods used in preparing the principal classes of compounds, and the fundamental reactions involved in their transformations. This is a feature of the book which specially meets with our approval, believing, as we do, that experimental work of this kind is necessary, if the student is to get a clear idea regarding organic compounds and their changes.

Brain Rest: being a Disquisition on the Curative Properties of Prolonged Sleep. By J. LEONARD CORNING, M.D., Formerly Resident Assistant-Physician to the Hudson River State Hospital for the Insane, etc. Second edition. New York and London: G. P. Putnam's Sons; Knickerbocker Press. 1885.

This edition is revised and enlarged, with additional illustrations. The book is written in an interesting style, and although it will, perhaps, attract the lay reader rather than the physician, the latter will find considerable practical information on the systematic treatment of insomnia, besides much on the circulation of the brain, and the physiology of exhaustion and repair. The author's instruments for carotid compression and simultaneous application of electricity, are described at some length, and their uses explained. Whether this invention, which is intended to lessen the cerebral circulation, will prove as valuable in the hands of the profession at large, as in those of its projector, is a question of the future. The book contains one hundred and thirty-five pages, and is of a convenient size for the pocket.

Acne, its Etiology, Pathology and Treatment. By L. DUNCAN BUCKLEY, A.M., M.D. New York and London: G. P. Putnam's Sons. pp. 280. 1885.

This book is a comprehensive, painstaking and trustworthy treatise, not only upon what is commonly known as acne, but upon the diseases of the sebaceous glands in general, and is worth the attention of any one interested in the subject. G. H. T.

Medical and Surgical Journal.

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LAPAROTOMY IN PENETRATING STAB AND SHOT WOUNDS OF THE ABDOMEN.

THE rapid progress of surgery in the past two decades has presented to the mind of the surgeon a series of more or less difficult problems in regard to the advisability of novel operations or methods of procedure, which are earnestly recommended by some surgeons and perhaps as decidedly condemned by others.

One of the most interesting of these problems, the question of laparotomy in wounds of the abdomen, is, however, by no means a modern operation as Heister, in his work on Surgery published in 1739, speaks favorably of it, even quoting a successful case, and the various authors of the brilliant era of military surgery at the beginning of this century, discuss the subject fully.

Of late years some enthusiastic spirits have claimed for the operation as great a future and as recognized a position as that of ovariotomy; but at a recent discussion on the subject by the Surgical Section of the New York Academy of Medicine, a much more conservative opinion was expressed. The various sources of danger, arising from unfavorable surroundings of the patient and the lack of a thorough knowledge, by the surgeon, of the details of the operation, were fully recognized, and it was well said that laparotomy for wounds of the abdomen "is not to be attempted, even in so-called favorable cases, unless the operator could avail himself of many of the recognized means of procedure necessary to control the shock of the operation and were sufficiently familiar with its steps to accomplish the work with accuracy and despatch."

A discrimination was made in favor of stab wounds, which, as a rule, are not associated with such dangerous symptoms as shot wounds. In the latter no particular attention need be paid to the character and calibre of the weapon, as Parkes' series of experiments on dogs[1] prove that no exact relation exist between the extent of the injury and the size of the missile. In regard to the position of the wound, it should be said that Hamilton's observations seem to show that wounds in the inguinal regions have a remarkable immunity from serious results.

The important practical elements in the consideration of these cases are shock, hæmorrhage, and escape of fæces, and the main difficulty lies in properly estimating, in a given case, to what extent hæmorrhage is a factor in the production of the shock. Although a varying amount of shock may be caused by the blow of the bullet or weapon, especially if the wound is near the epigastrium, the statement can still be safely made, that in most cases, if the shock is considerable, hæmorrhage is taking place. The anatomical relations of the omentalic and mesenteric vessels are such as to cause them to bleed very rapidly after injury, to which they are especially exposed, so that a wound of a small vessel may give rise in a short time to a considerable and even to a dangerous hæmorrhage. Hence laparotomy, if done at all, it is to be done at once, or as soon as the necessary arangements can be perfected. The presence of meteorism is, of course, an indication of injury to the abdominal viscera, but it should be borne in mind that visual proof of perforation is required, even the protrusion of the gut through the external wound not being conclusive on this point. Perforation also is not invariably fatal, as several cases of gun-shot wounds of the abdomen with recovery, accompanied by the passage of the bullet per rectum in from three to forty days, are reported in the surgical history of the War of the Rebellion. The actual escape of fæces, however, is an occurrence most to be dreaded by the surgeon, and, in common with any other like symptom, such as a gush of urine, indicating with certainty a laceration of the abdominal viscera, is the strongest inducement to laparotomy which in such a case most probably offers the only chance for recovery.

The probable occurrence of hæmorrhage, as indicated by an excessive amount of shock is also a strong incentive to active surgical interference, and is thought by many to justify an exploratory incision which allows the entrance of air into the abdominal cavity and thus momentarily checks the hæmorrhage. If, then, actual laparotomy is done the difficulties of the operation are much increased by the fact that the surgeon is not concerned with an abdominal cavity whose walls have been rendered flaccid and more or less atrophied by the long-continued pressure of a tumor, or where the bleeding area is circumscribed by the nature of the case; but that he has to seek for a bleeding point in a so-called cavity all of whose contents lie throughout in very close contact with each other, and where even the normal relation of the various organs may be disturbed and clouded by coagula, all of which may have to be carefully removed before the lacerated vessel is found. Hence it has been justly remarked that "the intestines and omentum should be thoroughly examined by a preconceived method rather than by the rough handling associated with illogical haste." In fact the true answer to the question of danger in these cases will be found to lie in the *amount of hand-*

[1] Journal of American Medical Association, 1885.

ling of the viscera required in order to check the hæmorrhage, remove coagula or fæces, place intestinal sutures if necessary, and perform the toilette of the peritoneum.

It is, however, in the doubtful cases, where there is no proof of laceration of the viscera and the evidence of hæmorrhage is slight, that conservative surgery holds up a warning finger to the ambitious operator and, reminding him that the patient may recover under expectant treatment, points out the many difficulties and dangers of the operation as it is at present understood. Whatever new facts the future may bring to light it cannot be expected that laparotomy for penetrating wounds of the abdomen will ever become a routine procedure, but it may be confidently hoped that its position will be a high one amongst those operations which are only to be attempted, with strict observance of cleanliness, by a surgeon possessing some experience of the parts affected.

THE PLEA OF INSANITY AND EXPERT TESTIMONY IN THE GOODWIN CASE.

LAST August (27th), Mr. Goodwin, of Lawrence, Massachusetts, went into the office of Mr. Swan, and after a quiet talk shot him dead through the back of the head. There had been no altercation or violent talk overheard, and the two men were within easy sight and hearing of a clerk. Goodwin at once telephoned to the police to arrest him, and, upon their not coming, went to the station and gave himself up. He was in great need of money and claimed that he had been overreached and defrauded by Swan, as was probably true, in regard to some investment of his and in business transactions arising out of them. He acknowledged that he had gone to Swan's office with the intention of shooting him in case he did not get satisfaction for his wrongs, which were real, in part at least and perhaps altogether. So far Goodwin acted with all the method of the sane man, and there was, as he said, reason for extreme anger on his part at his treatment by Swan. He was an ill-balanced man, intensely devoted to one idea at a time and with fixed ideas so strong as in some cases to suggest the doubt whether they were wholly the false beliefs of a sane man, if not entirely the morbid delusions of an unsound mind. He was apparently quite honest in his statement, for instance, that the jury would bring in a verdict, in his case, of justifiable homicide.

Goodwin's father was preacher, poet, painter and farmer, eccentric, with a quick, violent temper, and subject to periods of mental depression. He died in Libby prison. His son showed similar qualities in early boyhood. A great-uncle's insanity was perhaps an exaggeration of the family tendency, perhaps accidental. Goodwin had been a prisoner at Andersonville during the war of the rebellion and came away emaciated, dull, stupid, and almost in a condition of mild, simple dementia from the starving, exposure and various horrors of that place. One friendly witness testified that the particular murder was a surprise to him, although he had seen Goodwin in a state of mind when he might have killed some one else.

Mr. Goodwin was shown to be clearly not of a thoroughly sound and normal mind. Indeed, no reasonable person familiar with his history, would think of maintaining that he could control his actions to the same extent as may be fairly expected of mankind in general, and yet few men well acquainted with mental disease, would testify that he was insane in the sense of being fully irresponsible for the deliberate and premeditated murder, even of a man who had grossly wronged him. It was the old question that came up with such force in the trial of Guiteau, when passion and party feeling were too strong for it to be fairly answered, at what point medical insanity or unsoundness of mind becomes legal insanity, or irresponsibility for crime; and there are some indications for the belief that Goodwin may have had, in a mild degree, the same form of insanity which, in Guiteau, was pronounced, primary insanity (*primäre Verrücktheit*).

In strict law, Goodwin should have been either hanged for murder, or acquitted on the ground of insanity. But, although the law does not recognize a limited responsibility, the court or the jury often does, and in this case, the judges evidently meant to make a verdict of murder in the second degree possible to the jury, in that they dwelt particularly upon the fact that the law does not define the amount of premeditation necessary to constitute murder in the first degree. The sympathy of the jury was naturally in favor of a man of narrowed limitations of self-control when exasperated to the last degree.

A distinguished surgeon of New York was called, as an expert, by General Butler, senior counsel for the defence, to answer the hypothetical question, which implied the insanity of Goodwin; but several physicians giving evidence for the government, without special training and experience in mental disease, upon protest from General Butler, were not allowed by the court to testify as experts — a step in advance, for which Judge Allen and Judge Gardner deserve the thanks of the medical profession and the community.

The verdict of murder in the second degree is, probably, quite satisfactory to the public, and to the scientific students of insanity, and we congratulate the attorney-general, as we have had occasion to do before, upon having prevented the plea of insanity from being used as a cloak for crime. Those politicians who think General Butler to be in his dotage, or breaking up mentally, evidently did not attend this trial, and have not conversed with the medical witnesses cross-questioned by him.

THE CODEX COMMISSION'S REPORT ON PEPSIN.

PROBABLY no medicinal agent is more extensively prescribed than pepsin, and there is, perhaps, none concerning whose real efficacy more doubt exists in the professional mind. The indications for its admin-

istration are not clearly established, nor is it certain that this substance, even with the addition of a dilute mineral acid, has precisely the same action in the human stomach on the ingredients of a meal as it has out of the body on albumen in a test tube. However this may be, there is a real interest in knowing the best means for determining the purity of this now standard medicament, for inert preparations abound.

It has been shown that it is not enough that the sample which is the subject of experiment shall dissolve a certain quantity of coagulated white of egg; this result may be obtained with pepsins of feeble digestive power, and simple solution is not peptonization.

Dr. Pierre Vigier, of Paris, appointed recently member of the Codex Commission to revise the pharmaceutical methods in use for the assay of pepsin, has published the results of a long series of experimental researches. He gives the following formulæ, which has been adopted by the Codex. A pepsin which will respond to this test is regarded as of good quality.

FORMULA A.

Take of Medicinal Pepsin in powder	0.50
Or Pepsin Extractive	0.20
Distilled Water	60.00
Hydrochloric Acid	0.60
Fibrin of sheep, calf, hog, washed and dried in the air	10.00

This mixture is subjected, in a wide-mouthed flask, to a temperature of 122° F. for six hours. At the end of this time, the filtered liquid ought not to show a precipitate, or become cloudy by the addition of a few drops of pure nitric acid, which is an indication that all the fibrin has been peptonized.

Vigier finds that the greater part of the pepsins of commerce have a digestive power greatly inferior to that required by the above standard. They may, indeed, dissolve fibrin in quantity very greatly in excess of their weight, but a copious precipitate will follow the addition of the nitric acid, which shows that the fibrin has not been peptonized, and, as is well known, the albumen is not assimilable except under the form of peptones. The only reagent which enables one to estimate the peptonizing power of a pepsin is nitric acid, introduced drop by drop; and, after numerous trials, Vigier has ascertained that it is best to employ for this test a fixed quantity of ten grammes of filtered liquid to which is slowly added, *guttatim*, nitric acid up to forty drops; above that quantity, the acid redissolves the precipitate formed.

The same experiments have shown that although the temperature of 122° F. (50° C.) is higher than that of the stomach, yet the maintenance of this temperature is necessary for a perfect result.

The Commission of the new Codex has, in accordance with these experiments, adopted the following criteria: "Pepsin in powder, or medicinal pepsin, obtained from pepsin extractive by the admixture of a certain quantity of dextrine, or starch, ought, in a quantity not exceeding fifty centigrams, to peptonize ten grammes of fibrin.

"The pepsin extractive (officinal pepsin of the Codex of 1866), which is found in commerce under the form of a brown extract, ought, in the dose of twenty centigrams, to peptonize ten grammes of fibrin."

The report of Vigier adds that these figures are not exaggerated; there are pepsins in the market, and among them that of Boudault, whose digestive power is twice as great as that indicated above. The fibrin employed is obtained by whipping the blood of a sheep, a hog, or a calf; that obtained from the blood of the ox is found, practically, not so good for the purpose.

Pepsin acts only in an acid medicine; the hydrochloric acid, which is the acid of the gastric juice, is that to which the preference should be given. The quantities of acid and water given in the above formula have been fixed upon after numerous tentatives, as those certain to give the best results.

An interesting experiment is given illustrative of the power of a limited quantity of pepsin to peptonize an indefinite quantity of fibrin, provided new supplies of acid are added at the same time. A complete artificial digestion having been obtained, in accordance with the conditions of the above formula, to the contents of the flask, still unmolested, a fresh quantity of fibrin was added, with a proportion of acidulated water equal to that already employed; at the end of six hours the digestion was perfect. This operation was repeated three or four times with the same result, only after the fourth digestion, the filtered liquid become slightly cloudy on the addition of a few drops of nitric acid. This experiment shows that the encumbering action of the peptones in artificial digestions diminishes in proportion as they are further diluted, and that the digestive power of the pepsin is augmented in the same ratio. It also shows that pepsin acts after the manner of living ferments; "from this," says M. Vigier, "we obtain a hint as to the beneficial effects of drinking freely during meals."[1]

The formulæ for the Wine and Elixir of Pepsin adopted by the Commission of the New Codex are as follows:

WINE OF PEPSIN.

Medicinal Pepsin	5 parts.
Muscadel Wine	100 "

ELIXIR OF PEPSIN.

Medicinal Pepsin in Powder	1 part.
Alcohol at 80	3 parts.
Syrup	8 "
Distilled Water	9 "
Flavor *ad libitum*.	

Twenty grammes of the Elixir or Wine of pepsin are equivalent to one gramme of pepsin in powder, and this quantity is necessary to digest ten grammes of fibrin.

As the strong alcohols precipitate pepsin from its solutions, it is only in a very dilute state that they can be used in conjunction with this medicinal agent; hence, for the preservation of pepsin, menstrua are chosen, as in the formulæ above given, which contains only ten to fifteen per cent. of alcohol. The amylaceous pepsins (like Boudault's), give better preparations with dilute alcohol than the saccharated pepsins.

The glycerites of pepsin, according to the Codex Commission, have little activity, and it is the same

[1] Bulletin gén. de thér., Nov. 30th, 1885.

with respect to other preparations which contain associated with pepsin, other ferments, such as pancreatine, or pharmaceutical products, such at hydrochloric acid, coca, quinine, bismuth, iron, etc.

The Commission, in concluding, emphasize the importance of the physician or pharmacist testing every preparation of pepsin of which he is the prescriber or vendor, in order that he may know the quality thereof, and if it be a faulty article, avoid its use or delivery. For such purpose, the very best criterion is the formula A, above given.

MEDICAL NOTES.

— Mlle. Tarne, Doctor of the Paris University, has been appointed honorary physician to the Queen of Italy. This lady passed, four years ago, brilliant examinations. There are now three women who are house students in the Paris hospitals.

— Leopold von Ranke, now more than ninety years of age, presents the anomaly of a man who has never taken any physical exercise, and is yet in perfect health. The great German historian has almost lived in his library, working for fifteen hours a day, and he has laid out more work which he hopes to complete before his one hundredth birthday.

— Lieut. Greeley has recently returned to Washington. His health is greatly improved, and he is now quite robust, although still suffering somewhat from his back. He greatly enjoyed his stay in Great Britain, and is enthusiastic regarding the treatment he received there. Wherever he went he was heartily welcomed.

— The headlong haste with which certain of our countrymen have accepted Pasteur and his hydrophobia inoculations as the heralds of a new era in medicine, has received a check, and from no less a person than Pasteur himself. The correspondent of the *Boston Herald* telegraphs, under date of January 4th, that the great chemist that day received a dispatch from the president of the Pasteur Institute in New York, asking if M. Pasteur would receive a medical man, who knew French, to study in his laboratory and learn his methods. M. Pasteur said: "These gentlemen are in too much of a hurry. It is premature to attempt anything yet. Wait until we see how the cases already treated turn out. Wait until we see how the Newark children get along. Wait, at least, until March, when the series of experiments, already commenced, will enable me to make known facts and data much more specific and detailed than anything yet published. Of course, I feel very much flattered to hear that Americans have thought fit to give my name to the institute, but in the pure interest of science delay is needed, as everything so far is merely experimental." "What answer shall you send?" M. Pasteur replied: "I shall telegraph, 'Vous allez trop vite.'"

NEW YORK.

— At a meeting of the Society of Medical Jurisprudence and State Medicine, held January 14th, the president, Dr. Frank H. Hamilton read a paper entitled: What are Legal Limitations of the Right of Private Judgment in Surgery; Does the Omission to employ Antiseptics justify an Action for Malpractice? The committee on cremation made a report strongly in favor of this mode of disposal of the dead, and presented a resolution recommending a bill for passage by the Legislature which provides that the bodies of all persons who die of contagious diseases, such as smallpox, yellow-fever and cholera, shall be cremated under the direction of the municipal authorities. Action on the resolution will not be taken until the next meeting.

— The graduating exercises of the Training School for Nurses attached to Bellevue Hospital took place January 14th, at the Nurses' Home, in East 26th Street. Mr. William E. Dodge presided, and Dr. E. L. Keyes delivered the address to the graduates, of whom there were twenty-four. The annual report showed that two hundred and forty four nurses had been graduated from the school during the past ten years, and that of these but five have died, twenty-two are married, and twenty-eight have responsible positions in hospitals as heads of training schools, matrons and chief nurses. One hundred and eighty-four still continue to practice their profession in hospitals or private families, and four of the nurses are connected with St. Paul's Home for Trained Nurses in Rome, Italy, where their services have been much appreciated by Americans visiting or permanently residing in the city. There is at present the full quota of students at the Bellevue school, sixty-four.

— The State Board of Charities held a three days' session in Albany, ending January 14th, and its annual report will shortly be presented to the Legislature. In it, it is stated, that there is no evidence of any considerable increase of pauperism in the State; but the increase in the number of the insane appears to be greatly in excess of that in population, and there is great necessity for further accommodations for this class. The evils arising from the shipment to this country, and especially to New York, of lunatic, imbecile, and otherwise infirm and disabled Europeans are fully set forth, and the conclusion arrived at that the remedy for this lies in the modification by Congress and more rigid enforcement of the Federal laws regulating emigration, by which these burdensome classes shall be effectually precluded from landing in America.

— The thirteenth annual report of the New York County Visiting Committee for Bellevue Hospital and other public institutions of the city calls attention to the fact that about 14,500 persons are now under the charge of the commissioners of charities and correction. Some improvements in the accommodations for these have been made during the year; but many others are still needed, and the prevalence of contagious ophthalmia among the children in the various institutions, due in great measure to imperfect quarantine, overcrowd-

ing, improper food, and bad drainage, as shown by the statistics recently collected by Dr. Derby and others, is especially commented on. A conspicuous example of overcrowding was found by the committee in the city female lunatic asylum on Blackwell's Island, which with a capacity for 1,250 patients, contained on October 1st, 1885, 1,629. "Trained nurses," says the report, "are greatly needed in the Bellevue Pavilion for the Insane. This pavilion is like a prison. No books, no occupation, not a strip of carpet, not a comfortable chair, not even a curtain to hide the grated windows." In regard to the condition of grammar school No. 6, on Randall Island, it says: "The absolute foulness of the air in which these apparently sickly children pass so many hours during the day beggars description. There is simply no ventilation whatever.

— An "American Pasteur Institute" has been organized, and among its incorporators is Professor Alexander B. Mott, of Bellevue Hospital Medical College. Its objects are defined to be "the gratuitous cure and treatment by the Pasteur system of inoculation, or such variations thereof, and improvements thereon, as science may develop, of all persons suffering from, or threatened with, or in danger of hydrophobia, or any other disease to which the system of inoculation may be found applicable, and the scientific examination of the causes, development, and improved means of prevention of hydrophobia and other diseases through inoculation or kindred methods." Dr. Billings, with the four Newark boys who have been inoculated by Pasteur, landed in New York from Havre, January 14th.

— A number of physicians have addressed a memorial to the Board of Health, requesting the latter to use its influence to secure the passage, by the Legislature, of an act which will protect medical practitioners, who, in good faith, report contagious diseases, against suits for damages, in case the affection does not prove of the character suspected.

— Mr. Am Ende, the Hoboken druggist who caused the death of two young ladies in August last, by compounding morphia in a prescription, in mistake, for quinine, has been acquitted, the defence being that the mistake was such as was liable to occur in any drug store, and that the defendant was suffering from overwork at the time.

— The reports of the Saturday and Sunday Hospital collection received up to January 15th, show the gratifying amount of $37,393.

— In consequence of the great reduction in the appropriation for the Board of Health for 1886 from $469,758 to $319,800, a large number of inspectors, sanitary engineers, clerks, and other officials, have been discharged; while the salaries of those remaining have been cut down about twelve and a half per cent.

— The report of the Board for the last quarter of 1885, shows that during that time, the sanitary inspectors made 85,934 inspections. 2,738 complaints of food adulterations were investigated, and 860 quarts of milk, and 173,719 pounds of meat and fish were condemned. The sanitary police made 29,256 inspections; 481 cases of contagious diseases were visited, 2,896 vaccination certificates were issued, 33,115 persons were vaccinated, and 81,429 was received from the sale of virus. Defects in plumbing and drainage were investigated in 25,660 cases. The report for the whole year, of Dr. Cyrus Edson, Chief of the Second Sanitary Division, shows that, in 1885, 7,006 specimens of milk were examined, and 1,701 quarts of adulterated milk destroyed. There were ordered destroyed, 72,700 pounds of candy, 540 pounds of head cheese, 37,905 pounds of canned goods, 5,160 pounds of cheese, 4,000 pounds of pickles, 212,000 pounds of fruit, and 790,410 pounds of meat and fish.

— There has been quite a serious epidemic of typhus fever in the Albany Penitentiary, and among its victims was the resident physician, Dr. Joseph W. Reilly, who died at his home in West Troy, January 15th, after two week's illness. Between December 1st and January 11th, seventeen of the inmates died from the disease.

— The fifteenth annual dinner of the Alumni Association of the Medical Department of the University, came off at Delmonico's, January 14th. Prof. J. W. Wright, in responding to the toast, "The Medical Department," said that the sum of $50,000 was needed for the erection of a building to contain a laboratory and dispensary, and a small medical and surgical hospital, and that one-half of that sum had been already conditionally promised.

Miscellany.

THE LATE DR. J. H. WHITTEMORE.

AT a meeting of the trustees of the Massachusetts General Hospital on the 9th inst., upon the announcement of the death of Dr. James H. Whittemore, late resident physician of the Hospital, a well-deserved tribute was offered by the chairman in the following "minute," which was unanimously adopted, and ordered to be spread upon the records of the trustees:

MINUTE.

The death of Dr. Whittemore is deeply felt by the trustees. They recall the high qualities which fitted him for the service of this institution, and which, in his long connection with it, were constantly ripening.

His energy, his quick response to every call upon him, his administrative ability, his seizure of every opportunity to advance the work under him, his independence, his sympathy and his comprehensive grasp of the interests in his charge, alike those of patients, attendants, nurses, officers, staff and corporation, were easily recognized by all his associates.

He served the hospital and asylum for twenty years: for half this time as resident physician of the hospital. Each year of his administration has borne witness to his power and fidelity.

Always ready to suggest improvements and to receive the suggestions of others, he carried out a plan once determined with signal ability.

The loss of his devotion to the hospital is not to be measured by words. It is to be appreciated hereafter even more than at present, and yet there is no one of us, even now, but fully shares in the sorrow for his departure.

Nor is thankfulness wanting, both for the honorable career that has been fulfiled, and for the peaceful ending of sufferings and anxieties borne with a cheerful fortitude above all praise. His memory will long be cherished by the officers and friends of the hospital he loved and faithfully administered to the very close of his life.

THE SALEM, MASS., HOSPITAL.

THE tenth annual report of this institution is issued by the Superintendent. The number of patients admitted to the Hospital during the past year was 140. Of these, 42 were medical, 98 surgical; 82 were males and 58 females. The average number of days passed in the Hospital by free patients was 32¼, and by those paying board, 13 4-7. Board was furnished to free patients 533 weeks, and to those paying board, 14 weeks. The Eastern Railroad bed was occupied 216 days, the Naumkeag Mills' 170, and the Salem Lead Company's 20, and 63 days' board was furnished to United States patients. The number of patients paying board was much less than in previous years, as, owing to the increase in the funds, the Trustees did not wish board exacted from any who could not easily afford to pay. Thus many were admitted free, who, in former years, would have been expected to have paid something, at least. The largest number of patients in the house at any one time, was 21; the smallest number, 8. The average cost of board was $2 per day. During the year, quite extensive additions have been made to the building of the hospital, and the trustees hope, the coming spring, to begin work on an isolated ward.

PROLONGED GESTATION WITH ANENCEPHALOUS FŒTUS.

THE prodigious size of many anencephalous fœtuses, says the *London Medical Record*, must have struck the most careless visitors to any large pathological museum; yet it does not seem to have been noticed, even by writers of monographs on teratology, with the single exception of Isidore Geoffroy St. Hilaire. Dr. Huber believes, from a case which came under his observation, that this abnormal bulk is consequent on a prolonged period of gestation. The case in question was that of an unusually intelligent and trustworthy woman, who stated positively that she menstruated last on August 15, 1869; first felt the fœtal movements on January 6, 1870, and was delivered on July 10, 1870, of an anencephalous fœtus weighing six Bavarian pounds. The fœtal movements, therefore, were felt on the 144th day, or 20th week of pregnancy, and delivery took place on the 327th day, instead of the 280th. The legal bearings of such prolonged gestation are obvious, and there is reason to think that prolonged gestation occurs more frequently than is commonly believed. Huber (*Klinik der Gebürtskunde*) reports two cases of 304 and 310 days respectively; and Löwenhardt, out of 245 cases, gives seven which extended beyond 305 days, as do Schlichting and others. In these, however, the fœtuses were normally developed.

LABOR DURING HYPNOSIS.

DR. EDWARD PRITZL announces in the *Wiener Med. Wochensch.*, a case of this kind, the first, he thinks, on record. The case is summarized in the *London Medical Record*, December 15, 1885. A young woman was under his care in a lying-in hospital who, he had reason to believe, would be easily brought into a hypnotic condition; and some preliminary trials showed his surmise to be correct. When, therefore, the case ultimately proved to be one in which narcotics should in the usual course be employed, Dr. Pritzl determined to give hypnosis a trial. In spite of her pain and the nervous excitement produced by the presence of several medical men, who wished to witness the experiment, the woman, after looking but a few seconds at the brilliantly illuminated thermometer bulb that was passed before her eyes, sank back unconscious. The following observations were made. The intervals between the pains lasted nearly two minutes; the pains themselves were more violent than is usual under a narcotic, and lasted on an average fifty seconds, being at their height actively aided by the pressure of the abdominal muscles, and the intensity of the latter was quite normal. The patient was perfectly insensible, but the left lower arm was cramped and the left leg became stiff. There was no change observable on the right side. She turned her head hither and thither as if she were angry, frowned and groaned. In the intervals, she resembled one asleep. In forty-five minutes from the time she became unconscious, a healthy child was born. In forty-five minutes after this, the woman was roused from her sleep, and would not believe she had been delivered, being hardly willing to own the child. The case up to the time of writing had taken a favorable course. Dr. Pritzl lays stress on the following points as remarkable. 1. It was easy to induce hypnosis in such a case as labor. 2. The pains were violent enough to arouse reflex action of the abdominal muscles but not to rouse the patient. 3. Evidently the hypnotic state accelerated labor; for it had been expected to last several hours. 4. The afterbirth stage, which lasted forty-five minutes, was remarkable for the character of the pains which, though short, were intense, and assisted by abdominal action; and the loss of blood was only about 300 grammes (mostly coagulated). Dr. Pritzl has similarly experimented in two other cases, which, though successful, were neither so rapid nor so perfect.

Correspondence.

HUMANIZED AND BOVINE VACCINE VIRUS.

PROVIDENCE, JANUARY 16, 1886.

MR. EDITOR, — I again ask permission to reply through your columns to the statements of Dr. S. C. Martin. I have no desire to enter into a discussion as to the relative merits of humanized and bovine virus. I simply wish to show that, with proper care a stock of humanized virus can be maintained with character unimpaired for a long series of years, and also to show how erroneous is the purely imaginary picture which Dr. Martin draws of the effects of the virus which is now in use by the Health Department of this city.

During the thirty years that this virus has been used over 47,000 persons have been vaccinated by this department, and not a single one of these has contracted small-pox, though the disease has many times been imported into the city and has spread among the unvaccinated. Yet the number of those thus vaccinated who were brought into most intimate contact with small-pox was very great. Dr. Snow who was for twenty-eight years Superintendent of Health, and to whom is due the credit of maintaining this stock of virus, bases his confidence in its protective power on the large number of such instances which he had observed and many of which he recorded. Over and over again he vaccinated persons immediately after exposure to

small-pox and who remained exposed to it, and found in every case that the typical vaccinia which followed proved perfectly protective.

To show that the symptoms which result from the use of this virus are very similar to those described by Jenner, as characterizing the disease, and very different from those which Dr. Martin theoretically thinks *ought* to be produced by this long humanized virus, the following description is given. It was written a week or two ago before Dr. Martin's graphic account appeared, by Dr. Charles H. Leonard, who has during the past fourteen years done 20,000 vaccinations in this city:

"After the insertion of the virus, the redness of the skin usually increases gradually until on the fifth or the sixth day it grows paler as a vesicle begins to form which by the eighth day has filled and covers nearly the whole of each scarification. It continues to enlarge until the ninth or tenth day and has a tendency to assume a circular form with a depressed center. The development of the vesicle is accompanied by considerable constitutional disturbance; the pulse is quick; the temperature rises from 99° on the fourth or fifth day to 101° or 102° on the seventh or eighth day; it then falls gradually, though the child is still feverish and chilly. The vesicles which on the eighth day were clear or translucent, on the next become turbid, and on the tenth day may become slightly pustular, and are surrounded by an areola which a day or two later is four or five inches across and may extend up to the shoulder, down to the elbow, and nearly around the arm.

"The vesicles begin to dry down by the twelfth day and at the fifteenth or sixteenth day will have solidified into brownish crusts while the surrounding inflammation will have greatly lessened or nearly disappeared.

"The crusts mature and fall off by the twenty-second or twenty-third day, yet they often adhere to the arm by their edges only, for several days longer. The crusts are roundish, mahogany colored, are thinner at the center than at the edges, and each leaves a broad superficial scar slightly depressed below the surface of the surrounding skin, and indented by numerous faveolæ."

In regard to a faveolated cicatrix not being indicative of a successful vaccination, that is, one which will protect against variola, I can only say that such a cicatrix has in this city been usually observed in those cases in which the protection was proved good by actual tests, while on the other hand, the deep smooth scar, admired by Dr. Martin, has been found on patients suffering from varioloid.

Yours truly, CHARLES V. CHAPIN, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING JANUARY 9, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diphtheria and Croup.
New York	1,340,114	710	72	16.80	17.50	8.40	.80	1.82
Philadelphia	927,995	—	—	—	—	—	—	—
Brooklyn	644,536	—	—	—	—	—	—	—
Chicago	632,100	—	—	—	—	—	—	—
Boston	390,406	181	45	6.60	19.80	4.40	—	1.11
Baltimore	408,520	121	38	10.79	14.94	2.58	.83	.83
St. Louis	400,000	—	—	—	—	—	—	—
Cincinnati	272,400	—	—	—	—	—	—	—
New Orleans	234,000	146	41	15.18	11.04	6.21	2.07	1.38
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	—	—	—	—	—	—	—
Pittsburgh	180,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	32	11	15.65	25.00	6.26	—	3.13
New Haven	62,882	—	—	—	—	—	—	—
Nashville	54,400	21	7	14.28	38.08	—	4.76	—
Charleston	52,286	—	—	—	—	—	—	—
Lowell	64,051	22	4	9.11	27.30	4.55	4.55	—
Worcester	68,383	10	4	20.00	10.00	20.00	—	—
Fall River	56,863	23	12	47.85	—	—	4.35	17.40
Cambridge	59,960	21	5	23.80	19.04	9.52	—	4.76
Lawrence	38,825	—	—	—	—	—	—	—
Lynn	45,861	15	5	—	20.00	—	—	—
Springfield	37,577	7	3	14.28	14.28	—	—	14.28
Somerville	29,992	—	—	—	—	—	—	—
Holyoke	27,894	10	4	20.00	—	—	10.00	—
New Bedford	33,393	17	7	23.52	16.66	5.88	—	5.88
Salem	28,084	9	2	—	22.22	—	—	—
Chelsea	25,709	15	4	6.66	13.33	—	—	6.66
Taunton	23,674	8	1	—	—	—	—	—
Gloucester	21,713	11	1	18.18	18.18	9.09	—	—
Haverhill	21,795	5	1	20.00	20.00	20.00	—	—
Newton	19,759	3	1	—	—	—	—	—
Brockton	20,783	5	—	—	60.00	—	—	—
Malden	16,407	—	—	—	—	—	—	—
Newburyport	13,716	6	1	16.66	33.33	16.66	—	—
Waltham	14,609	2	1	—	50.00	—	—	—
Fitchburg	15,375	—	—	—	—	—	—	—
Northampton	12,896	3	1	—	—	—	—	—
90 Massachusetts Towns	—	44	13	15.89	18.16	6.81	2.27	6.81

Deaths reported 1,347: under five years of age 484; principal infectious diseases (small-pox, measles, diphtheria, and croup, whooping-cough, erysipelas, fevers, and diarrhœal diseases) 207, consumption 249, lung diseases 216, diphtheria and croup 95, scarlet fever 31, typhoid fever 16, whooping-cough 21, diarrhœal diseases 17, malarial fever 11, puerperal fever five, cerebro-spinal meningitis four, erysipelas four, typhoid fever three. From whooping-cough, New York 18, New Orleans two, Providence one. From diarrhœal diseases, New York 11, Boston and New Orleans two, each, Nashville and Cambridge one each. From malarial fever, New York and Baltimore four each, New Orleans three. From puerperal fever, Baltimore, New Orleans, Cambridge and Holyoke one each. From cerebro-spinal meningitis, New York two, Nashville and New Bedford one each. From erysipelas, New York three, Providence one. From typhus fever, New York three.

Cases reported in Boston: scarlet fever 40, diphtheria 21, measles 11, and typhoid fever three.

In 108 cities and towns of Massachusetts, with a population of 1,261,727 (population of the State 1,941,465), the total death-rate for the week was 16.98 against 18.18 and 15.63 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,906,446, for the week ending December 26th the death-rate was 19.3. Deaths reported 3,289: infants under one year of age 749; acute diseases of the respiratory organs (London) 383, whooping-cough 126, measles 122, scarlet fever 55, fever 30, diphtheria 24, small-pox (Liverpool, three, Bristol one), four.

The death-rates ranged from 13.6 in Brighton and 28.4 in Bolton; Birkenhead 26.3; Birmingham 17.3; Blackburn 23.6; Hull 15.1; Leeds 19.3; Leicester 14.2; Liverpool 22.4; London 18.0; Manchester 21.7; Nottingham 24.7; Sheffield 22.0; Sunderland 20.8.

In Edinburgh 21.0; Glasgow 25.; Dublin 22.8.

For the week ending December 26th in the Swiss towns, there were 31 deaths from consumption, lung diseases 22, diarrhœal diseases 11, whooping-cough five, typhoid fever four, puerperal fever three, small-pox two, diphtheria and croup two, erysipelas two, measles one, scarlet fever one.

The death-rates were: at Geneva 13.2; Zurich 13.6; Basle 18.9; Berne 27.3.

The meteorological record for week ending January 9, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps: —

Week ending Saturday, Jan. 9, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday,... 3	30.432	28.5	41.0	17.2	84.0	88.0	95.0	89.0	E.	S.E.	S.E.	9	5	6	O.	O.	R.	—	—
Monday,.. 4	30.130	42.6	47.0	37.2	100.0	98.0	94.0	97.3	S.E.	S.E.	S.E.	7	14	18	G.	R.	R.	—	—
Tuesday,.. 5	29.574	28.3	35.6	22.4	100.0	85.0	85.0	89.0	S.E.	S.W.	S.W.	11	7	12	R.	O.	O.	—	—
Wednes,.. 6	29.506	31.6	42.8	23.0	73.0	51.0	63.0	62.3	W.	N.W.	W	8	16	15	C.	F.	C.	—	—
Thursday, 7	29.680	19.0	26.3	13.5	51.0	64.0	66.0	60.3	N.W.	N.W.	N.W.	23	19	12	O.	C.	C.	—	—
Friday, ... 8	29.915	18.2	28.3	8.4	48.0	43.0	70.0	53.7	W.	N.	N.E	12	14	11	C.	C.	O.	—	—
Saturday,. 9	28.886	25.8	29.2	9.5	94.0	88.0	66.0	82.7	N.E.	S.E.	W.	38	12	20	N.	N.	C.	42.	1.68
Mean, the Week.	29.735	28.7	38.3	24.4				7.63											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JANUARY 9, 1886, TO JANUARY 15, 1886.

MCPARLEN, THOS. A., colonel and surgeon. Now waiting orders in New York City, ordered for assignment to duty as medical director, Department of the Platte, on January 24, 1886. S. O. 5, A. G. O., January 7, 1886.

SWIFT, EBENEZER, lieutenant colonel, United States Army (retired). Died near Hamilton, Bermuda, December 24, 1885.

SOCIETY NOTICES.

THE MEDICAL SOCIETY OF THE STATE OF NEW YORK will hold its 80th annual meeting at the Common Council Chamber, City Hall, Albany, February 2d to 4th, 1886

BOSTON SOCIETY FOR MEDICAL SCIENCES. — A regular meeting of the Society will be held on Tuesday evening, January 19th, at the Harvard Medical School, at 7.30 P.M. Communications: DR. W. F. Whitney, "A Case of Fœtal Cretinism." Dr. J. W. Warren, "Preliminary Report on Experiments with Alcohol." Dr. Thomas Dwight, "Curious Anomaly of Nerves of Hand." Drs. Mixter and Newell, "Demonstration of new Injecting Apparatus." CHAS. H. WILLIAMS, *Secretary*.

NORFOLK DISTRICT MEDICAL SOCIETY. — A meeting for Scientific Improvement will be held at Room 7, Palladio Hall Building, corner of Warren and Dudley Streets, Roxbury, on Tuesday, January 26th, at 7.45 P.M. Communications: I. "Diphtheria," F. W. Vogel, M.D. II. "A Case of Femoral Aneurism," C. A. Bemis, M.D. III. "Epistaxis with Cases," C. W. Sparhawk, M.D. Refreshments will be served after the meeting.

S. ALLEN POTTER, M.D., *Secretary*.

ERRATUM.

In the Report on "Recent Progress in Ophthalmology," in the last number of the JOURNAL, page 31, for "Multiple Neuritis," read "Multiple Sclerosis."

APPOINTMENTS.

DR. W. B. GODSMITH, Medical Superintendent of the Danvers Lunatic Hospital, has accepted the appointment to succeed the late Dr. John W. Sawyer, as physician and superintendent of the Butler Hospital in Providence.

DR. W. A. GORTON, first assistant physician at Danvers has been appointed to the vacancy to be created by Dr. Goldsmith's resignation.

OBITUARY.

JAMES H. WHITTEMORE, M.D.

Dr. James H. Whittemore, for the past nine years resident superintendent of the Massachusetts General Hospital, died in Boston on the 6th of the present month, at the age of forty-six. Dr. Whittemore's professional life was passed in the service of the trustees of the McLean Asylum, and of the institution at which his death occurred; and most faithfully did he perform the manifold duties which devolved upon him. Conscientious, energetic, possessed of great executive ability and gifted with a frank and winning presence, he was peculiarly suited for the position of chief executive of a large hospital. His genuine kindness of heart was apparent to all who met him, while at the same time he conveyed a well-founded impression of firmness of purpose and thorough knowledge of his special work.

Constantly dealing with people of every degree and calling in life, he was liked and respected by all, and by none more than by members of his own profession. He was an eminently *satisfactory* man in his official capacity to all concerned — trustees, staff, patients, and the outside thousands with whom his duties brought him in contact. Socially he was genial and courteous, and as a friend he was loyal and kind. The disease, epithelial cancer, to which his death is due, necessitated the amputation of one wrist and the loss of a portion of the opposite hand nearly two years ago. He bore the pain which preceded the operation without complaint, and to the last kept up a brave heart in spite of unavoidable forebodings of still greater misfortunes yet to come. His courage was of the finest type, and differed as widely from that displayed in the excitement of battle as it did from the passive endurance obtained by use of opiates.

So long as consciousness remained he never failed to take an active interest in his immediate duties, and even found time to express sympathy for others whose burdens were but straws compared with his own. The large concourse of people of all ranks in life present at his funeral, bore testimony to the esteem with which he was regarded. No man in this community had more friends, and those friends were fairly won. His memory will be cherished as that of an honest, brave, and able man who did thoroughly good work in life.

BOOKS AND PAMPHLETS RECEIVED.

Case of Cerebral Tumor. By A. Hughes Bennett, M.D., F.R.C.P. The Surgical Treatment. By Rickman J. Godlee, M.S.F.R.C.S. (Reprint from Medico-Chirurgical Transactions.)

A Case of Locomotor-Ataxy, with Disease of the Posterior Columns of the Spinal Cord. By A. Hughes Bennett, M.D. (Reprint from Clinical Society's Transactions.)

How we Treat Wounds To-day. A Treatise on the Subject of Antiseptic Surgery which can be Understood by Beginners. By Robert T. Morris, M.D. New York and London: G. P. Putnam's Sons. 1886.

Medical Education and Medical Colleges in the United States and Canada, 1765–1885. Illinois State Board of Health, Springfield, Ill., 1885.

Diphtheria and its Management: Are Membraneous Croup and Diphtheria Distinct Diseases? By Joseph E. Winters, M.D., Clinical Professor of Diseases of Children, University of New York. (Reprinted from Medical Record, Dec. 5, 1885.)

Original Articles.

THE PAVILION IN HOSPITAL CONSTRUCTION.[1]

BY ARTHUR C. HEFFENGER, M.D.,
Passed Assistant Surgeon, U. S. Navy.

IN writing this paper, I have purposely avoided entering into the details of ward construction, and confined myself, as much as possible, to general consideration of the true principles of hospital construction as exemplified in the pavilion system, and various ward types.

The field of hospital construction has grown to such immense proportions during the last twenty years, that it is only by the most careful selection and restriction that a paper, which aims at embodying its fundamental principles, short, yet satisfactory, can be prepared; so should facts appear to be too briefly stated, and a want of smoothness and fluency be manifest, I shall have to beg the leniency of the Society.

The present manner of sheltering and caring for the sick differs so widely from that in vogue a few centuries ago, that a comparison shocks the intelligence and humanity of our own times. In the middle ages, all institutions for the care of the sick in Europe, were in the hands of religious orders, who used them for their own profit and aggrandizement, and paid little attention to the suffering inmates. Indeed, this subordination of the welfare of the sick to the cupidity and rapacity of their religious masters became so notorious, Kurt Sprengel tells us, that the Council of Vienna, in the fourteenth century, ejected the ecclesiastics, and placed all institutions for the care of the sick under the jurisdiction of laymen. It was not till the sixteenth century, however, that St. Bartholomew's and St. Thomas's Hospitals in England, were put under lay management, and the Hôtel Dieu, in Paris, remained in priestly clutches till a much later period.

During those early days of the modern enlightenment, little, if any, consideration was given to the character of the buildings in which the sick were placed, or to their proper management, though Philibert Delorme, the noted architect and *protégé* of Catherine de Medici, who was the first architect of the Tuileries, realized the necessity of healthy houses, and in his *Traité Complète d'Architecture*, published three centuries ago, affirmed that ornamentation and elaboration of buildings in no way promoted their healthfulness, and that, therefore, they should give place to those structural features which contribute to convenience, health, and the ultimate prolongation of life. These excellent ideas of M. Delorme, unfortunately, made no impression, even upon the scientifically receptive minds of the day, and it was not till the eighteenth century, that earnest thought became directed to the crying necessity for a radical change in hospital construction.

The first great mind to clearly grasp this subject was that of M. Tenon, a member of the Royal Academy of Sciences, for it was he who originated the pavilion system, and thus brought to light the true principles involved in the construction of a healthy habitation for the sick. As the result of twenty years' laborious study, M. Tenon produced a great work, entitled "*Mémoires sur les Hôpitaux de Paris*," which excited so much interest in the Academy, that a committee was appointed, in 1787, to report upon it. The Committee, in their report, cogently set forth those studies and views of M. Tenon which eventuated in his proposed plan for a model hospital, the germ of the pavilion system of to-day; and I cannot better illustrate the ideas of this founder of modern hospital construction, than by giving a few extracts from this valuable report.

"M. Tenon, having thus first instructed himself by detailed investigations of all the hospitals of Paris, passes to a consideration of the Hôtel Dieu, which appears to be the principal object of his work, forming, as it does, the subject of the third and fourth memoirs, which are much more extended than either of the others. M. Tenon considers separately the buildings of the Hôtel Dieu and its dependencies, its furniture, its sick, and its attendants.

"In this examination, M. Tenon finds more to avoid than to imitate: there is useless multiplication of administrative offices, complication of administration, confusion of the departments, and an improper accumulation of sick in a space too small for the 3,400 patients which the Hôtel Dieu accommodates; calculating only four sick per bed, there are 2,600 in the single building of the Rue de la Bucherie, and on an area of 970 'toises'; 'the disposition of the staircases is bad; they are without air, and are infected. . . . . We will not enter into the details of the article which treats of the furniture, and we will only repeat a curious and interesting extract as to the convenience of placing three, four, and six patients in the same bed: the physical causes, from which the danger and sickness of the patient result, are developed thereby, and this result, which has been inferred from an extract in the first report of the Committee, is known to the Academy.

"M. Tenon devotes himself next to the dimensions of the wards, and shows that their length is regulated by the number of the beds, and their width by the eighth of a man, from which it results that for two rows of beds, the width of the wards must be 25 'pied'; lastly, that their height is regulated by the class of patient. Inflammatory diseases require high rooms; old or debilitated people, who require warmth, must have rooms less lofty. M. Tenon has devised a means of comparison, in this respect, of wards one with another; it is to consider the quantity of air each patient has to respire, and its circulation and renewal. The Hôtel Dieu, in confounding all the departments, and bringing together all classes of diseases, develops the cause of a frightful mortality, and has shown M. Tenon the necessity for the classification of these diseases, and for their separation, as much as possible. There are, above all, in the Hôtel Dieu, six classes which should be separated in a well-ordered hospital; those who are attacked with contagious diseases, lunatics, ordinary sick, wounded, pregnant or lying-in women, and the convalescent. . . . . M. Tenon proposes also to separate malignant fever and dysentery.

. . . . "The State has the greatest interest in caring for individuals in good health, but especially, wounded by accident, and mothers in the flower of their age, both of which renew the population. These two subjects have been treated by M. Tenon, with a care proportionate to their importance. He remarks and proves that everything which is essential to the wounded — pure air, cleanliness, and quiet — are wanting at the Hôtel Dieu. He asks that the wards for the wounded shall be well ventilated, kept clean, separated from any bad odors, and preserved from the noise of the house and the street traffic. He asks for wards for inmates

[1] Read before the Naval Medical Society, Washington, D. C.

in preparation for operation, wards to carry out the operation, and wards to achieve the cure. . . . .

"As for the lying-in cases, we will not repeat here the table which the notes and observations of M. Tenon (of which this memoir is the result), have enabled us to trace in this report to the Academy; we have shown to us the confusion of all the parts of this department, the want of air, damp, and all other causes of danger which threaten the lying-in cases. . . . . We could not, then, say anything on the mortality, which is the result of the bad arrangement of the Hôtel Dieu; we did not have the abstract of the registers. M. Tenon has procured it, and it goes over a period of eleven years. The result is to show that, whilst the mortality of the British Hospital is one in fifty-one, that of the Hôtel Dieu is one in fifteen and two-thirds, a frightful mortality, and which, alone, would necessitate the reform of the Hôtel Dieu, for it is as well to observe that it is not a question either of a period of epidemic, or where puerperal fever makes ravages. The mortality in these cases has often been half, and sometimes, nineteen out of twenty. M. Tenon, to remedy this mortality, proposes to entirely separate lying-in cases from the other sick — above all, from the wounded; to put a smaller number in the same wards; to ventilate these wards; to shelter them from damp and noise; to separate healthy pregnant women from unhealthy; and for the sake of morality, prostitutes from poor and honest women. . . .

"Above all, he recommends that the different species of convalescents should be separated — small-pox, itch, and all those recovering from contagious diseases. They should have their own separate promenades, and even their own wards.

"We had already announced this work in the report which we have made on the actual state of the Hôtel Dieu. . . . It is the fruit of a twenty years' study of hospitals, that the Committee had charged M. Tenon to publish. . . . We look upon this work as the most profound, and the most complete of its kind, and we believe it deserves, the approbation of the Academy, and to be printed under its privilege.

"At the Louvre, September 5, 1787. Lassone, Tillet, Laplace, Daubentar, Darcet, Coulomb, Lavoisier, Bailly.

"I certify the present extract to be conformable with the original, and the judgment of the Academy, at Paris, September 7, 1787.

"THE MARQUIS DE CARDORCET."

In the foregoing extracts, we see laid down the soundest principles of hospital construction and management; principles upon which, with but slight modification, the most modern hospitals are built and managed, though they were announced a hundred years ago.

M. Tenon seems to have been the first to clearly appreciate the necessity of proper form, dimensions, and arrangements of a ward. His rules for determining the dimensions of a ward are unique, and the idea of regulating the height according to the class of patients to be accommodated, deserves special mention. To him belongs the credit of laying down the law that every patient should have a generous and stated air-space, and that due regard must be paid to the proper circulation and renewal of the air furnished. He condemned strongly the pernicious habit (at the present day, almost impossible to credit), of huddling two, three, and sometimes six patients, into one bed, and finally forced its abolition. His subtle and masterly insight into the nature of wounds, and the parturient state, and his rules for the management of surgical and lying-in cases, challenge the admiration of the foremost thinkers of the day, for in spite of all the searching investigations of the last decade or two, we have not greatly outstripped this profoundly knowing Frenchman. It was he who first classified patients with scientific intelligence, and insisted that various groups of diseases should be separated as much as possible, that the sick might have every attainable chance for recovery, or, at least, not die from other diseases contracted in hospital. To fully carry out this idea of classification, separate buildings of sufficient size only to accommodate the patients of each group in a hospital of ordinary capacity, would be needed; and these buildings, judiciously situated with regard to each other and the administration building, would constitute the general hospital; and such, in fact, is the pavilion hospital of to-day.

The model hospital, which M. Tenon designed to illustrate his views, consists simply of two two-storied pavilions, indirectly connected by a central building of three stories. The pavilions are raised three or four feet above ground, and are built on vaults. The ground-floor ward in each pavilion, is of parallelogram form, and arranged to accommodate twenty-four patients, one being for men, and the other for women. They are warmed by stoves, and in the centre of each, is partitioned off a small room for a night nurse. On the first floor, these wards are divided into five, three of which are for women, and two for men. Of the women's wards, the first is for fever cases, the second for wounded, and the third for operation cases; and of the men's, the first is for wounded, and the second for operation cases. The ward offices are placed in small buildings attached to the free extremity of each pavilion. The central building connecting the pavilions, consists of an oratory on the ground floor, operating theatre on the first floor, and quarters for nurses on the second floor. The administration building is a long, low structure, placed a hundred feet in front of the pavilions, and is connected with them by corridors at either extremity. The only access to the hospital is through the centre of the administration building, a point strongly insisted upon by the projector. Many excellent arrangements are found in this building, but especially deserving of notice, are the receiving, dressing and bath rooms, and the disinfection chamber.

It seems remarkable that, notwithstanding the strong endorsement of the Academy, the advanced ideas of M. Tenon should have been permitted to lie fallow for over half a century, while not only France, but the entire world, suffered daily untold miseries for want of their application. But alas! this is one of many instances where the labors of great minds have preceded their century. It does not appear to have occurred, even to the Academy, that, for the benefit of mankind, the Tenon principles should be enunciated over the civilized world, and their practical application insisted upon at home; and it was not till 1839, that a project was originated by the *Assistance Publique* of Paris, to build a pavilion hospital, when M. Gauthier, the architect, was instructed to make his designs conform to "the suggestions issued in 1788, by the Commission of the Academy of Sciences, and the recommendation of M. Tenon, in his work on the construction of hospitals." This hospital was a long time under construction, and, after many modifications, was finally opened

under the name of "Hôpital Lariboisière,"[2] by Napoleon III, in the year 1853.

Although a magnificent structure, and greatly in advance of all other hospitals of the day, the Lariboisière cannot be said to have fully exemplified the ideas of M. Tenon. It is much larger than his recommendations warrant, for it ostensibly accommodates six hundred and thirteen patients, though really containing, at all times, at least one hundred more; the pavilions are too high, having three stories, where his design calls for two only, and are too close together; the wards are too large, and the water-closets offensively near them; and some of the pavilions are in objectionable proximity to the administration buildings. The systems of ventilation and warming introduced were excellent for the period, though far from satisfactory at the present day. The pavilions on the right are ventilated and heated by the systems of MM. Thomas, Laurens, and Grouvelle. Fresh air is forced into the wards by means of a fan, being partially heated as it passes over steam-pipes in the horizontal shafts, and further heated before delivery, by steam-stoves. Foul air passes out through vertical shafts. The air thus furnished, though sufficient in volume, is superheated, and, therefore, not wholesome for respiration. The pavilions on the left are ventilated and heated according to the system of M. Duvoir-Leblanc. The same horizontal and vertical shafts are used as in the pavilions on the right, but heating is done by the circulation of hot water, instead of steam, and an aspiration chimney, into which all the vertical shafts empty, draws foul air out of, and consequently, fresh air into the wards.

The Duvoir system furnishes air at a much lower temperature, though not in as large volume as the Thomas-Laurens-Grouvelle, and is much less expensive, both in first cost and maintenance. The drainage of the hospital has been bad from the beginning, and little has been done to improve it. The mortality has clearly demonstrated its many faults, and the fearful death-rate among the lying-in cases, finally forced the construction of a detached puerperal ward, after the system of M. Tollet. The Hôpital Lariboisière, though in many ways imperfect, has yet rendered most excellent service to the world by properly directing the course of modern hospital construction, which has evolved the splendid pavilion types of to-day.

(To be continued.)

THE CAUSE AND CARE OF CONTAGIOUS DISEASES.[1]

BY S. H. DURGIN, M.D.

I have not been fortunate in having a rare and interesting case or group of cases to report for my paper to-night, and have therefore selected a very common and practical subject. Contagious diseases have been known and described, so far as their physical and rational manifestations are concerned, more or less accurately since the days of our earliest writers on medicine, but it is not history, the peculiar physical appearances or the therapeutic treatment of these diseases which we shall dwell upon at this time.

It is rather the cause, care and prevention that we will discuss briefly. I hope to provoke discussion and ascertain how much uniformity of opinion there exists in the profession to-day as to the origin, care and prevention of these diseases.

The belief that disease is visited upon man by an angry Deity as a part of the plan, belongs to a remote age, although we would not be obliged to go beyond the limits of our own continent to find people still adhering to this heathenish delusion, and treating all interference to prevent the spread of epidemic and contagious diseases as attempts to antagonize the Almighty in his methods of disciplining men. This kind of ignorance and superstition coupled with an unwarranted prejudice against vaccination was shown in the recent epidemic of small-pox in Montreal.

I shall not attempt to speculate on the origin of the first case of any of the contagious diseases; I shall only remark, in passing, that there is no evidence to show that the first case was not produced by the same living, perfect organism that produces the same disease to-day. The first proposition I have to emphasize in my paper is that certain diseases are contagious and that they arise only by contact with a specific organism which comes directly or indirectly from a preceding case of the same disease. As examples of what may be called contagious diseases, I will mention small-pox, scarlet-fever, measles, diphtheria, cholera, typhus fever, typhoid fever, relapsing fever, yellow fever, puerperal fever, whooping-cough, chicken-pox and glanders.

Strictly speaking, some of these are contagious and some are infectious, but as the terms are generally used so interchangeably, I shall, for convenience, only use the word contagious. It is presumed that the great majority, if not all of you have seen sufficient evidence, either in practice or in the recorded history of the diseases named, to satisfy you that they are all contagious. A doubt is sometimes raised as to diphtheria, typhoid fever and cholera, but when we look over the vast amount of evidence recorded by careful observers concerning each of the three diseases, we cannot fail to recognize the fact that whatever positive evidence there is, is in favor of their contagiousness. Much negative evidence has been used by authors and by practitioners to show that typhoid fever particularly, was not contagious, but while we are not inclined to attach much importance to negative evidence when opposed by that of a positive character, we find by moderate observation and research that there is a preponderance of the latter over the former in favor of the contagiousness of all of the diseases named.

Some attribute the cause of typhoid fever to the decomposition of animal matter and especially to human, fæcal matters. Others say that sewer-gas produces it, while others say that typhoid arises from decomposing substances only when those substances are mixed with the germs of the specific typhoid poison. I find in the first volume of Ziemssen, after a discussion of the different views on this subject, the following: "Daily observation is sufficient to show that the decomposition of organic and excrementitious substances is not in itself sufficient to produce typhoid fever;" and again "We are forced to the conclusion that besides external conditions favorable to the development of the typhoid-poison, something else is necessary.

"The most convincing experiences show that typhoid fever never originates in any unusual amount of decomposing matter nor from any circumstances favor-

[2] So named in commemoration of the Countess of Lariboisière, who, about that time, gave her entire fortune to the administration of the Assistance Publique.

[1] Read at the Boston Society for Medical Observation, Jan. 4, 1886.

able to decomposition, but is always preceded by the introduction of a case of the same disease."

Dr. Sternberg, in speaking of the infectious diseases of the lower animals, says that "the infective agent is in each case a living microörganism known as 'bacteria' and belonging at the very foot of the scale of living things." He also says that "there is good reason for believing that the infectious diseases of man are also caused by pathogenic disease producing organisms of the same class. Indeed this has already been proved, for some of these diseases and the evidence as regards several others is so convincing as to leave very little room for doubt."

Dr. Billings, in his article on Hygiene in "Pepper's System of Medicine" says, "The diseases which spread by contagion until they form epidemics are those which have from the earliest times attracted the most general attention. They are also the diseases which have given rise to the most bitter controversies among medical men as to the means of their propagation and the best methods of prevention. Plague, cholera, yellow-fever and typhus are those with regard to which this difference of opinion has chiefly occurred, one party considering their chief cause to be contagion, or specific germs derived directly or indirectly from the bodies of the sick; the second party declaring that they are due to filth plus an unknown something, which is variously termed epidemic constitution, pandemic wave, Providence or X. The great majority of opinions at present is in favor of the view that they are all contagious, but not all, or always, contagious from person to person, that they spread from infected localities, which localities receive their infection from cases of the disease."

It seems to me that when we have arrived at a point where we can say that a given disease is contagious; that there is a something which passes directly or indirectly from one person suffering from a given disease, to another person and produces the same disease, and that this same process of perpetuating the disease has been going on for ages, that there is no material change in the character of the disease, that it is still governed in its appearance, progress and effect by the same laws which have governed it from the first, we are in a position where we can reasonably ascribe to this something which is so potent, so immutable in itself, and so unvarying in its effect, the character of a complete, living identity. Not the accidental product of decomposition, putrefaction, sewer-gas, filth, or of chemical action of any kind, but the product of its own simple parent.

It appears that the principal investigators in this field of research are arranged in two classes, one maintaining that chemical action alone is found in fermentation, putrefaction, contagion, etc., and the other that minute organisms are the cause and are indispensable to, all these processes. The one group has given us probabilities, theories and promises, the other, including such men as Koch and Pasteur, has given us practical and positive demonstrations in favor of the germ theory of contagious diseases.

The theory that any contagious disease can be caused by two or more different things is without any known demonstration and is opposed to all reason and analogy. There is no more reason to suppose that the soil or filth or sewer-gas can produce diphtheria, typhoid fever, or any other contagious disease, without first having been impregnated with the specific poison or germ from a preceding case than there is to suppose that corn or wheat may be produced from the earth without first having planted the proper seed. The fact that these diseases are so frequently associated with uncleanliness, with defective drainage, overcrowding and many other abominations, has made it easy to suppose that these conditions are the causes of the diseases while they are in fact not even necessary accompaniments.

From 1878 to 1884, 8782 cases of diphtheria were looked up by the Boston Board of Health and the premises where each case occurred carefully examined. It was found that over twenty-one per cent. of the premises were in a perfectly good sanitary condition. From 1877 to 1883, 3,659 houses were examined in blocks in different parts of the city, including the most recently built and best houses, and without reference to any reported cases of disease. It was found that defective drainage alone existed in forty-three per cent. of all examined. From 1881 to 1885, 2,896 houses where typhoid fever was reported, were examined, and twenty-six per cent. were found in good sanitary condition.

Some eight or nine years ago a large number of cases of diphtheria occurred in a cluster of houses in an outlying part of this city. Considerable alarm was felt by the people living there, and the sewer which ran through the place was vigorously condemned as the cause of the outbreak of the disease. I visited every family in which a case of the disease occurred, and examined the premises. I found scarcely any objectionable feature in the sanitary condition of the place. The sewer had a good pitch and was in good condition. Not all of the houses had any connection with sewers, but had vault and cesspool situated at a distance from the house. I found that the first cases occurred in the family of a milkman who lived near by and who supplied and delivered milk to nearly every family where a case had occurred. The milk and cans were handled in close proximity to the sick, and the small contaminated brook close to the house furnished the water for washing purposes.

The germs of cholera, yellow fever, typhoid fever and perhaps of others, find easy lodgment in the soil, in cesspools, vaults and drains, and a favorable pabulum and environment for their growth and multiplication. It is believed by some that the germs of yellow fever and perhaps of typhoid fever, after leaving the person must find lodgment in some suitable medium and undergo a certain change or development before they can produce the same disease in another person.

The difference in the course taken by these poisons, in their passage from person to person may be explained by the theory of a difference in their ponderability. Those of small-pox, scarlet fever, measles and typhus fever being light, pass readily through the air and give quick evidence of their contagious character, while the poisons given off from typhoid fever, cholera and yellow fever, being heavier, find their way from person to person more slowly, through the medium of water, soil, cesspool, vault or some other unclean material. It is known that in the *habitat* of yellow fever, persons occupying the lower floors of a dwelling or lying near the ground are much more liable to take the disease than those who use the upper floors.

It may be asked what advantage there is in giving up the idea that these diseases may arise from sewer-gas, drains, animal decomposition, etc., without the presence of the specific germ. I would say that it is easier, in a warfare of any kind, to deal with the enemy when we know where to look for it.

If we believe the origin of the poison to be in the drain, vault, cesspool or soiled earth, we are most likely to disregard the fact that the sick person is the source of an infinite multiplication of the poison. I would not detract a particle from the value of cleanliness or the necessity of care and treatment of all foul matters, but it seems to me that we should, if possible, recognize the true source of the enemy and direct our energies to the best advantage.

What are the most effective means for preventing the spread of these diseases? I believe that with almost universal consent of sanitarians we may say, absolute isolation of all cases, and the disinfection of everything that has become infected by a case.

The best form of isolation is without doubt in hospitals where the contagion may be concentrated and all means of communication between well and sick can be kept under control.

I would remove all such cases to a hospital except where proper isolation could be secured at home.

We have had an example in Boston, of what may be done with a contagious disease when the power and facilities for isolation are given.

We can but hope that the day is not far distant when we shall have the facilities for isolating diphtheria, scarlet fever, measles and many other contagious disease.

Can we depend upon disinfectants for the absolute destruction of these disease-germs, and if so, what are they?

The first question is well answered by Dr. Sternberg in a prize essay a few weeks ago, as follows:

"Evidence of disinfection may be obtained, 1st. From the practical experiments and experience of those engaged in sanitary work; 2d. By inoculation experiments upon susceptible animals; and 3d. By experiments made directly upon known disease-germs."

I think there can be no reasonable doubt as to the power of certain disinfectants to kill all living micro-organisms or disease germs. I believe that all bacteriologists agree as to this fact, but find a great difference in the power of some germs over others to retain life in the presence of the disinfectants.

The germ containing the spore is found to live where the germs without spores are readily killed.

According to Sternberg, there is no reason to believe that spores exist in the germs of cholera, smallpox, scarlet fever, diphtheria or yellow fever.

The agents found by experiment to be most useful in destroying disease germs containing spores are, fire, steam under pressure, boiling in water, chloride of lime and bichloride of mercury, and for those not containing spores, fire, boiling in water, dry heat, chloride of lime, solution of chlorinated soda, bichloride of mercury, sulphurous acid gas, carbolic acid, sulphate of copper and chloride of zinc.

Practically, it will be found best to destroy by fire such articles as are too badly soiled or worn to be of value; everything that may be wet without injury should be boiled in water for at least one hour; articles which cannot be wet without injury should be fumigated with burning sulphur, or subjected to the action of superheated steam. Three or four pounds of sulphur to each 1,000 cubic feet of space should be burned as rapidly as possible with the room tightly closed, and all articles therein so scattered and hung about as to permit easy access of the gas. The room should remain closed at least six hours.

To disinfect by steam, the articles should be hung about in the tightly closed room, and the temperature raised to 230° F., and held at that point for ten minutes, or 220° F. for fifteen minutes.

Floors and other hard surfaces may be washed with a solution of mercuric chloride (one drachm to the gallon of water) or a solution of the fresh chloride of lime, four ounces to the gallon of water. Nothing should be carried from the sick room before being disinfected. Articles which can be wet may be placed in one of the above solutions, kept in a wooden receptacle until such time as they can be removed for boiling.

All discharges from the bowels, bladder or stomach of patients suffering from typhoid fever, cholera or yellow fever should be received in vessels containing one of the above solutions in quantity greater than the infective material itself, and thoroughly mixed before being disposed of.

Gargling or spraying the diphtheretic throat frequently with an active disinfectant and frequent bathing or oiling the skin of the scarlatinal patient may measurably prevent the escape and dissemination of the poison.

SUBLUXATION OF THE RADIAL HEAD IN CHILDREN.[1]

BY H. W. CUSHING, M.D.,

Surgeon to Out-Patients, Carney Hospital.

THE cases to be reported, seen soon after the publication of Mr. Hutchinson's article on this subject,[2] illustrate very well the lesion described by him, and furnish examples of an injury producing an obscure, and, at times, puzzling group of symptoms.

An accurate diagnosis of injuries to the elbow joint, especially in children, is often a difficult problem to solve, and any addition to the surgeon's knowledge of these lesions, which will enable him to diminish the number of cases he is forced to class under the oft-times unsatisfactory diagnosis of "sprain of elbow," is gladly welcomed. And this lesion appears to be a correct explanation of the group of symptoms about to be described.

The injury is apparently much oftener met with than the brief mention of it in surgical text-books would lead one to suppose. A large proportion of cases are patients five years of age, or under. Hutchinson states that he was unable to produce it experimentally in subjects over five or six years. Lindeman,[3] in his report of twenty-four cases, finds all under five years, and a majority between nine months and two years.

In most cases it is the result of a sudden traction on the extended upper extremity, such as a child receives who, led by the hand, stumbles, and is prevented from falling by the jerk with which its nurse restores it to an upright position. The same conditions obtain when a child is dragged along by the hand, as is frequently seen, or lifted over an obstacle, or into a chair or vehicle. This explains why so many of these cases are found in children under five years of age, since this is a period of life during which the custom of lifting or leading children by the hand causes frequent

[1] Read before the Boston Society for Medical Observation, January 4th, 1886.

[2] Annals of Surgery, August, 1885, J. Hutchinson, Jr., F.R.C.S.

[3] British Medical Journal, December 5, 1885, Sydney H. Lindeman, M.R.C.S.

exposure of weak and incompletely developed articular structures to violence of the nature just described. This lesion is also said to result from a blow or fall received on the posterior surface of the semi-flexed elbow, which forces the head of the radius directly forward, but this is probably of rare occurrence.

Opinions differ as to the manner in which this lesion is produced. The sudden force applied to the fore-arm in these cases causes a displacement of the radius downward, so that its head is withdrawn from the orbicular ligament to a greater or less extent.

Mr. Hutchinson's article contains the only report of a dissection of this lesion that I have found, and is briefly as follows. He calls attention to the shape of the radial head; and to the difference in depth and contour of the radial and ulnar sides, the former of which is a rounded surface, while the latter is rectangular in outline.

These surfaces and angles, he concludes, play an important part in replacing the head of the radius within the orbicular ligament by their change in position during supination and pronation. He found by experiment that in subjects under five or six years of age, forcible traction during supination causes a slipping up of the orbicular ligament, with or without rupture of the suborbicular membrane or capsule. This was demonstrated by dissection, and he believes that the lesion consists, in most cases, in an escape of the head from the grasp of the orbicular ligament. In these cases, where the force is great, there is also probably a rupture of that part of the capsule connecting this ligament to the neck of the radius. As shown by his figure, the dislocation is a partial one, and the radius is still more or less in contact with the lesser sigmoid cavity.

Lindeman thinks the tendon of the biceps, one of whose actions is flexion and supination of the forearm, is an important factor in causing the displacement, and pulls the radius forward out of its position.

The anatomical arrangement of the articulation seems to indicate that the lesion is produced as follows: The force applied at the wrist by traction on the hand affects the radius mainly, since that bone occupies a greater portion of this joint, and is transmitted through it to the elbow, where the radial head is held in place by a group of ligaments, of which the anterior and external lateral act as guys to the orbicular, which in turn, holds the radius in its normal position. The orbicular is itself attached to the radial neck, and this is the weakest point in the structure. In the position of the joint in which the accident occurs, the posterior fibres of the external lateral ligament are relaxed, and the tense anterior ligament, with possibly the anterior fibres of the external lateral, is the one which is left to support the orbicular against the traction from below, which it is strong enough to do. The force is thus directed to the insertion of the orbicular about the radial neck, at the anterior portion of its circumference; this yields, and a subluxation is the result.

The direction forward which the radial head almost invariably takes, is probably due to the yielding of the ligament at this point, and possibly also to the traction of the bicipital tendon. The extent of displacement varies with the elasticity of the tissue, and the rupture or non-rupture of the orbicular insertion. The rupture occurs anteriorly, since, as just stated, the anterior ligamentous attachments are tense in this position, and the force is exerted here first, while the posterior structures are relaxed. This change of position of the radius causes the traction to be transmitted to other structures, and further injury is avoided. The weakness and elasticity of infantile tissues is probably the explanation why this lesion is so uncommon in adults, where such mobility of osseous structure is absent, and such an injury would cause a "sprain" only.

The clinical history is that the patient is injured in a majority of cases, as above described. Often a click or thud is noticed, or something is felt to give way, by the person holding the child's hand. The patient cries with pain, and the arm drops motionless to the side, with the elbow semi-flexed, and the hand partly pronated. The attendant is frequently puzzled to determine whether the wrist, elbow, or shoulder is the seat of the trouble, the latter being often designated as the location of the lesion. If the subluxation is reduced, either spontaneously or unconsciously by the parent during passive motion or other manipulation, all symptoms suddenly vanish, and nothing remains except a slight tenderness over the radial head, which soon disappears. If unreduced, the pain and impairment of motion persist, and medical aid is sought.

From a physical examination of the patient the surgeon usually obtains the following data: The injured arm hangs motionless by the side, with the elbow somewhat flexed, and hand semi-pronated. Attempts to use the latter, cause marked pain. Surface changes are usually absent, unless the accident was of such a nature as to cause additional lesions. No deformity exists except when the subluxation is marked, in which case the projection of the radial head causes a slight prominence below the external condyle on the anterior surface of the elbow. Tenderness over the head of the radius is the most constant symptom. In some cases, an increased surface temperature exists, with slight swelling. By careful manipulation, the projecting edge of the radial head can be felt, but it is easily overlooked, and the joint appears perfectly normal so far as its anatomical details are concerned. In some cases, flexion and extension are painful, but usually supination only causes discomfort. In most cases, supination alone is limited apparently by a mechanical obstacle. If not reduced by the above manipulation, the arm drops back into its former position, a symptom considered by Goyrand as pathognomonic.[4] Limitation of other movements of the elbow, if present, is due to muscular resistance.

If untreated, or the affected articulation is imprudently used, the pain and tenderness become more marked, and it is not improbable that the commencing periostitis or synovitis may transform what was originally a simple injury into a lesion, which results in the destruction of a joint. When the intimate relation of the injured tissues to the periosteum of the radius and the synovial membrane of the elbow is considered, this seems quite possible, and, as Mr. Hutchinson suggests, this may explain the mysterious origin of many cases of chronic arthritis of the elbow in children.

The rapidity with which all symptoms vanish after reduction, a thing which frequently happens unexpectedly during examination, is a striking peculiarity of these cases.

The diagnosis lies between sprain and dislocation, other injuries to the elbow joint being easily elimi-

[4] Boston Medical and Surgical Journal, September 18, 1862, R. M. Hodges, M.D.

nated, and the weight of opinion being opposed to Goyrand's theory that the symptoms are due to a displacement of the interarticular fibro-cartilage of the wrist in front of the carpal extremity of the ulnar.[5]

The diagnostic points are: the source of the injury; the localized tenderness; the limitation of supination only, and the rapid relief following reduction. The rotation of its head is apt to give the impression that the radius is in its normal position, and the surgeon is at a loss to account for the limitation of supination, which is almost the only abnormality discovered. And his perplexity is not at all diminished when he finds that suddenly all symptoms have disappeared as if by magic, leaving no trace of their previous existence.

The prognosis is generally good if the reduction occurs spontaneously, or the case is promptly treated. A majority of the patients probably recover without difficulty, but, as in other dislocations, a displacement may recur. The danger is from inflammatory processes being aroused by the imprudent or excessive use of the articulation directly after the injury, and I believe that quite serious trouble can follow such neglect or carelessness. Case V, in which a localized synovitis was apparently present, illustrates this, and the cases reported by Mr. Hutchinson have apparently led him to the same conclusion.

The treatment of these cases is easy. The movements of the patient, the manipulation of friends, or the examination of the surgeon with reference to diagnosis, often render further trouble about reduction unnecessary. It is, however, usually accomplished without difficulty by first semi-flexing the elbow, in order to relax the bicepital tendon, and approximate as closely as possible the displaced ligament and the edge of the radial head. Then with the forearm grasped by the left hand, supinate steadily with the right, while the left thumb over the radial head pushes in a backward direction. With a slight click or thud, the obstacle to supination suddenly yields, the head is felt to slip back into place, and the movements of the joint become normal.

In a recent article[6] it is claimed that flexion of the elbow to, or a little beyond, a right angle combined with full pronation of the forearm, is an easier and surer way to reduce the displacement; for the part of the radial head opposed to the curve of the orbicular ligament during pronation, is its thin rounded edge, over which the ligament easily slips; while full supination, by presenting a deep edge with a rectangular contour, renders reduction more difficult.

The after-treatment varies according to the symptoms presented. Rest is the most important factor. When slight tenderness, with or without pain, alone exists, as in spontaneously reduced cases, or unreduced ones where the arm has been kept quiet, rest in a sling for twenty-four to forty-eight hours prevents subsequent trouble. Here the displacement was probably quite limited, and the injury slight.

In cases complicated by contusions or secondary inflammation, with swelling, marked tenderness, and pain, rest is absolutely necessary. The elbow should be fixed by an internal angular splint, and the subsequent treatment should be that usually employed for sprains or other dislocations, and their possible sequelæ.

In marked subluxations, extension of the elbow should be avoided for at least two weeks after the injury, so as to allow the ruptured ligament to unite; otherwise risk of causing a fresh dislocation by the action of the bicepital tendon will be incurred.

It is not improbable that occasionally these dislocations remain permanently unreduced. In such cases, unless fixed by resulting inflammatory changes, one would expect considerable mobility of the radial head. This would account also for a slight abnormal projection met with in adults. Mr. Hutchinson reports two such cases. Lindeman has seen several patients where permanent enlargement of the elbow has resulted.

The cases alluded to at the commencement of this article are the following:

Case I. —— —— aged four, was brought to the Surgical Out-Patient Department of the Carney Hospital with the history that, on the preceding day, while being dragged by the hand, she had suddenly cried out as if in pain, and when released, was unable to use the arm, which was held motionless at the side. Pain followed all attempts at passive or voluntary motion. On the following morning, the symptoms had disappeared, and when examined at the Hospital, the only trace of an injury was a slight tenderness over the head of the right radius which, two days later, had also vanished.

Case II. —— —— aged three, was injured September 12th, 1885. A baby carriage, behind which she was standing, with its post-transverse bar grasped by both outstretched hands, was suddenly jerked away from her. She cried out at once from pain. The arm was seen hanging stiffly by the patient's side, and any attempt at examination or passive motion was resisted. Seen at the Hospital thirty-six hours later, unable or unwilling, on account of pain, to move hand or elbow. The left arm was held by the side with the elbow somewhat flexed, and the hand semipronated. The patient's efforts were apparently directed to prevent motion of the elbow joint. Comparison by inspection with the right elbow gave negative results. By palpitation a slight tenderness over the radial head was found. Passive motion showed the movements of the elbow unimpaired except that of supination whose arc of motion was limited to one-half its normal extent, although the head of the radius apparently rotated freely. Passive motion also caused pain, especially marked during supination. It was also present to a moderate degree during flexion and extension. During examination, while the elbow was held semiflexed, and the writer was trying to ascertain the exact position and arc of rotation of the radial head, the latter was suddenly felt to change its position with a peculiar sensation, resembling that felt during the reduction of a dislocated humerus as the head slides into the glenoid cavity, and at once the articulation recovered its normal extent and freedom of motion. This change occurred during supination, and only a slight amount of force was exerted when the unexpected reduction occurred. The arm was confined in a sling for forty-eight hours, and the patient was then discharged with a perfectly normal joint.

Case III. —— —— aged four, was treated at the Boston City Hospital by Dr. H. L. Burrell, to whose kindness I am indebted for the necessary data for this record. The patient was injured on the preceding evening, while being lifted by the hand from the floor to a chair. The symptoms reported were pain, not localized by the parents, and that motion of the arm was avoided by the patient. No treatment. When

[5] L'Union Medicale, November 23, 1861, Goyrand of Aix.
[6] British Medical Journal, January 2, 1886. J. Hutchinson, Jr., F. R.C.S.

first seen at the Hospital, eighteen hours after the accident, the above-reported symptoms were present. The arm hung by the side as usual, in the characteristic position. There was no change in the surface or contour of the limb. Tenderness over the radial head; supination limited one-third, and accompanied by pain. Other motions of the elbow normal and free. No deviation from the normal anatomical relations of the joint noticed. Reduced unintentionally by supination (elbow extended), while being examined to ascertain the position of the head of the radius. Treatment: sling for forty-eight hours. Discharged well.

CASE IV. —— —— aged six, also a patient of Dr. Burrell, was injured by being seized by the left hand, and swung around. Inability to use the arm caused the mother to suspect an injury to the shoulder. Pain considerable, but not located. No especial treatment. Two days later, the father, while "pulling" the arm, felt something suddenly "snap," and the patient's condition was much improved. Seen at the Hospital the following day. Position of arm normal. No deformity or surface change except a slight swelling below the external condyle. There was a slight tenderness and increase of surface temperature at this point. Motion of elbow normal except a slight limitation of supination from muscular resistance. Treatment: internal angular splint, sling. Apparatus removed four days later, and patient discharged. Recovery perfect.

CASE V. —— —— aged eleven, was a patient of Dr. G. H. Monks, by whose courtesy I saw the case. On October 3d, 1885, the patient fell eight feet between a wharf and a vessel, into the water. Was seized by the hand, and pulled aboard the vessel. He received an injury to the right elbow, either by striking it on a log used as a "fender," which was floating between the vessel and the wharf, or by a wrench received while being drawn out of the water. He complained of pain, referred to the elbow, tenderness and impairment of motion. The injury was followed by moderate swelling about the joint, with ecclymosis and superficial abrasion on its flexure surface. Treatment: rubbing with liniment. Condition improved. A few days later, after prolonged playing with "clappers," a performance requiring pronation and supination of the hand in rapid succession, the patient became much worse. The pain increased, and motion of the elbow became quite limited. Was first seen by Dr. Monks at the Carney Hospital October 17th, two weeks after the injury. On the flexure surface of the elbow was the fading discoloration of an extravasation in the later stages of absorption, and a few crusts covering a healed abrasion of the skin. Inspection negative, except, perhaps, a slight puffiness under the external condyle. Marked tenderness, and an indistinct "doughy" feel about the head of the radius. Flexion of elbow diminished one-half, extension one-fourth, pronation normal, supination not especially limited, but painful. Diagnosis: subluxation of the radius with contusion, reduced spontaneously and followed by circumscribed periostitis or possibly synovitis, resulting from imprudent or excessive use of the affected part. Treatment: internal angular splint, sling, cold application to articulation. October 19th, the swelling had disappeared, and the tenderness was much diminished. No pain, and arc of motion increased. The patient continued to steadily improve. Apparatus was discontinued five weeks later, and after carrying the arm in a sling for a few weeks longer, he was discharged nearly well. When last seen, January 5th, 1886, there was some tenderness over the anterior surface of the radial head when the hand was supinated, and a slight limitation of flexion of the elbow. Pain follows excessive use of the joint, but the patient has no trouble if this is avoided.

CASE VI, also a patient of Dr. Monks, resembles Case I so closely that a detailed history is unnecessary. The injury occurred in August, 1885, from the patient being dragged along by the hand. Reduction had already taken place when first seen at the Dispensary. A slight tenderness over the head of the radius was the only abnormal condition found, which soon disappeared, and when last seen, the patient was perfectly well.

RECENT PROGRESS IN MENTAL DISEASE.

BY HENRY R. STEDMAN, M.D.

CEREBRAL AND PSYCHICAL DISORDERS ASSOCIATED WITH LOCOMOTOR ATAXIA.

SEVERAL observers have very recently been engaged in working out independently the relations between cerebral disease (structural and functional) and locomotor ataxia.

The fact that symptoms of cerebral disorder as important and varied as vertigo, congestion and epileptiform attacks, aphasia, hemiplegia, etc., are not uncommon in the preataxic stage of tabes led Fournier [1] to the natural conclusion that psychical disorder might also be present under the same conditions. In corroboration of this view he finds in his notes seventeen cases in which mental complications have appeared in this stage of the disease. He reports as samples three of the cases. One was characterized by mental enfeeblement, loss of energy, fatigue on slight mental exertion, together with dulness and depression. This state lasted about a year, and then suddenly disappeared. A second case developed strange fancies, poor memory and a depressed, morose and hypochondrical state of mind with suicidal ideas. These symptoms also disappeared entirely and gave place to others of the usual tabetic variety. The third case was ushered in by two classes of symptoms, namely, disorders of sight and myoses and mental disturbance, almost identical in kind with that of the first case; mental inactivity and enfeeblement. The psychical symptoms were not of long duration and seemed to yield to specific treatment. Several years later a new set of symptoms more plainly tabetic, supervened, and finally tabes dorsalis of the classic form developed. The transient nature of these attacks will be noticed. They may also be compared pathogenically to the motor manifestations of tabes, such as ocular paralyses, etc., which are not uncommon in the preataxic stage.

In addition to these passing attacks there are also permanent disorders of the intellect in this stage. The tabes in these cases is marked by an assemblage of psychical symptoms resembling ordinary general paralysis, or more accurately that instructive group of cases which M. Fournier has described as pseudo-general paralysis of syphilitic origin. Mental symptoms of this kind, however, do not develop at the very outset, but usually after unmistakable signs of the locomotor

[1] L'Encephale t. 4, 1884, p. 641.

ataxia have appeared. Its chief features are, in brief, impaired memory, alteration of character, disposition, habits and morals, finally mental weakness and incoherence culminating in terminal dementia. He reports in this connection a remarkably complete case of what he terms cerebro-spinal tabes of cerebral origin, in which symptoms nearly identical with typical general paralysis ushered in and masked tabes dorsalis which in its turn manifested itself unmistakably, and finally the characteristic lesions of both diseases were found to be well-marked at the autopsy. There are also some very rare forms of transient mental disturbance complicating tabes; witness the delusional mania succeeding the lightening pains of the disease in the case reported by Dieulafoy, the melancholic stupor in the case of Burlureaux, and the melancholic frenzy of another case of Fournier's.

Beattey [2] has also reported within the past year investigations in this direction. His results, though not new, are interesting as corroborative of Westphal's recent results. He states that the study of the deep reflexes in general paralysis of the insane is exciting great interest among a small body of workers, their presence or absence tending to show that there is a close connection between general paralysis and other diseases such as tabes dorsalis, and affording to some extent a basis for classification of a disease which at present includes, in a common description, forms differing clinically and pathologically. Whatever may be the real nature of these phenomena, whether purely reflex, or merely local, the interesting fact remains that whatever increases or diminishes reflex action, generally increases or diminishes the phenomena under consideration.

In sixty-five of his cases of general paralysis, the knee jerk was considered normal in eleven, slightly exaggerated in eight, decidedly so in eighteen, diminished in five, and absent in eighteen. In five cases, the amount differed on the two sides. In the eighteen in whom there was no knee jerk, tabetic symptoms were not marked, being marked by the general paralysis. The latter was, however, in these cases of the demented type chiefly grand delusions, exaltation and excitement being generally absent or far from prominent.

The result of the autopsies in three cases of general paralysis, in which sclerosis of the spinal cord was diagnosed during life by the absence of the knee jerk, was, in each case, distinct sclerosis of the posterior columns of the cord throughout its entire length, extending, in one case, into the medalla oblongata. The sclerosis was most extensive in the lumbar region. He believes that this lesion will be found in most, if not all cases of general paralysis in which the knee jerk is markedly absent, and that although these cases are insufficient to prove a rule, they appear to him to confirm the indication of an organic connection between the two diseases.

Dr. R. M. Canfield,[3] in a recent lecture before the Hunterian Society of London, recalled the fact that Mickle had pointed out the close relation existing between locomotor ataxia and general paralysis, showing that they go hand in hand much oftener than could possibly be accounted for on the ground of simple coincidence. Quite a large number of cases were, he believed, soon to be published by a London gentleman confirming Mickle's observations. This seemed to him also to point toward the central character of the disease. Wilkes, he believed, had lately discarded the former pathology on grounds previously set forth in this lecture, but went so far as to say that this is no disease at all, but rather a collection of symptoms dependent on no localized lesion, and that they, collectively and individually, occur without any direct significance. Dr. Canfield thought it improbable that such a train of symptoms as we meet with day after day, bearing such a close relation to each other, and following such a decided course as these do, should not be dependent upon some definite pathology. True, the disease may rest upon the borderland of the so-called atrophic troubles, but it seemed to him that we must look to the motor centres themselves for its true genetic pathology, and perhaps we should come to recognize locomotor ataxia as a functional trouble.

[2] Brain, April, 1885, p. 64, vol. viii.
[3] Lancet, July 18th, 1885.

THE ALLEGED FRAGILITY OF BONES IN GENERAL PARALYSIS.

The weight of opinion has long been in favor of an alteration of the bony system in general paralysis, occurring as an essential pathological element of that disease, and expressed by a marked tendency to fractures. This Christian [4] does not believe, although he does not dispute the diagnosis of asteomalacia in certain recorded cases of general paralysis. He denies, however, that osseous change of this nature forms a part of the systematic *ensemble* of that disease.

The arguments heretofore advanced have been based upon isolated cases and statistics. The employment of direct method of inquiry, namely: microscopic examination of the bony tissue of general paralytics — a simple and easy line of investigation has been strangely enough neglected. The cases hitherto reported he shows to be untrustworthy for want of exact diagnosis. The statistics of the subject are open to the same objection. Old fractures of the ribs are often met with which have occurred before the patient's admission to the asylum, and even before the disease began. Then, also, many are due to external violence, the amount and nature of which are not properly estimated. The different practices in regard to non-restraint in different countries and asylums, is another source of fallacy. Lander Lindsay, who has given special attention to the question, comes to the conclusion that if England is the home of non-restraint, it is also the land of fractured ribs in lunatics. In that country, most of the fractures of that class have been due to external violence. This fact of their frequency is imputed by their English alienists not to undue violence on the part of attendants, but to the diminished resistance of the bones, occasioned by the disease, and consequently osteomalacia is diagnosticated. The number of falls which general paralytics meet with in the course of this malady are as frequent as those of a child, and far less easily prevented. No other form of insanity is so prolific (excepting possibly epilepsy), and yet Christian, in his six years and a half among two hundred and fifty general paralytics, has not met with a single fracture in one of these patients. Ingels, of Gand, confirms Christian's statement, and adds that for twenty-five years that he has been in charge of the asylum at Ginslain, he has observed very few fractures, and almost never had he seen them in general paralytics. Morel, for seventeen years in

[4] Annales Medicales Psychologiques, November, 1885.

charge of the female lunatics at Gand, stated that he had met with *no* case of fracture of the ribs, and only three or four other fractures, one of which occurred in an ataxic patient.

GENERAL PARALYSIS WITHOUT INSANITY.

M. Luys has recently made a valuable contribution[4] to the subject of general paralysis without insanity. A somewhat detailed abstract of this paper is necessary, in order to clearly bring out the writer's instructive views on this mooted subject. The article is devoted to that entire class of cases met with, in which are present all the symptoms of general paralysis without insanity, who die in a short time, and reveal at the autopsy lesions which are identical in character with those of general paralysis (such as, for example, the excessive growth of the cerebral connective tissue) but which differ as to the region of the encephalon invaded.

In ordinary general paralysis with psycho-intellectual troubles, such as pronounced delusions, etc., and a train of somatic disorders, the morbid process is confined chiefly to the cortex, the seat of psycho-intellectual activity. The following cases, however, show by the plainest pathological characteristics that when the bodily element only is concerned, when the symptoms are motor ones exclusively, for example, impairment of articulation, purely automatic excitation with *secondary* enfeeblement of the mental faculties, it is not the higher or intellectual centres which are the seat of the disease but far different regions of the brain, namely, the base, those portions which are especially concerned in the expression of bodily acts.

Thus it will be seen that in disease as in health it is possible for these two portions of the brain to act independently of each other.

In the first case we have a woman of thirty-eight years, with no history of syphilis. In a few months she runs rapidly through the purely somatic phases of general paralysis, for while under observation the delusional ideas peculiar to complete general paralysis were never manifested. The malady in her case aborted, as it were. She manifested only the usual train of physical symptoms, tremor of all the limbs and of the tongue, next, progressive paresis attacking collectively the motor powers causing, in a short space of time, inability to walk) and compelling her to lie in bed, and finally complete paralysis of the sphincters. At the autopsy those portions of the nervous system which supply in the physiological state the motive power of the bodily functions were found to be in a state of advanced disorganization. The cerebellum was small, shrunken and sclerosed. Moreover, the sub-thalamic regions of the cerebrum (the locality of red nuclei of Stilling, the gray substance of Sömmering, the accessory bands) which receive the fibres of the superior cerebellar peduncles and which assist in the transmission of its intra-cerebral nerve force, these regions were the seat of sclerosed indurations which had destroyed the active elements of nervous power. The physical forces disappeared hand in hand with the inroad of the sclerosis and its obliteration of the centres from which those powers spring.

But the effect of the sclerosis of these regions was not confined to motor impairment. It had also led to the destruction of the transmission paths of sense impressions between these centres and the cerebral cortex. This is a complete and adequate explanation of the apathy, indifference and hebetude manifested as the case progressed, keeping pace with the progressive and rapid invasion of a portion of the thalamic region — a region which M. Luys still holds to be the true port of entry for sensorial impressions.

The absence of marked lesions, partial atrophies, etc., of the cortex and of adhesions of the pia mater as well as the rapid progress of the mental enfeeblement confirm the opinion that the mechanism of the dementia must be ascribed to the lesions of the lower but related centres spoken of, rather than to any destructive lesions in the cerebral cortex.

In the second case are found the same somatic troubles of general paralysis also originating in localized sclerosis of the regions of somatic activity at the base of the brain.

The patient was a woman of forty-six, rational on admission, but weak in body and mind, though able to give an account of her condition. The disease had lasted eight months, beginning with severe frontal headache. On admission profound asthenia obliging her to lie down constantly; tremor of tongue and hesitation of speech. She had not one delusional idea. She answered questions correctly, and for three months no sign of active mental trouble appeared, although she had a tendency to insomnia and would leave her bed occasionally. At these times she was a little disturbed and had the nightmare more or less. The mental manifestations were rather those of enfeeblement, her range of ideas being limited. This dementia, only impending when patient was first seen, made rapid progress and was nearly complete five weeks after her admission. At this time the muscular exhaustion was extreme and kept her confined to bed.

Her intellectual obtusion was so great that she could only with difficulty pronounce certain phrases in the form of guttural sounds, but they were correct and relevant ones. At same time and occurring chiefly at night convulsive phenomena developed. From this time these symptoms became rapidly more and more accentuated. The convulsions continued, the mind became almost blank, she required to be fed by tube, but to the last she was able to respond "yes" or "no" to certain questions, thus showing that the perceptive centres of the brain were not yet notably impaired. Manifestations of consciousness still appeared in the form of certain articulated sounds.

At the autopsy there were found no adhesions of the membrane nor marked softening of the cortex, and, in short, there were none of the usual appearances of general paralysis on the cortical surface. But at the base of the brain the red nuclei of the tegmentum and vicinity on both sides were indurated and stiff to the touch. In running the finger lightly over the indurated points their firmness in the less resisting and softer substance was plainly felt. The cerebellum was small and atrophied. The central fibres of the laminæ were thin, narrow and filiform, so much so that the central white substance was very markedly reduced. Cerebellar cortex somewhat thinned. The left corpus dentatum was very perceptibly hardened. It had the appearance of a stiff, reddish, embroidered pattern which stood out from the surface of the section. The structure of the pons was firm and indurated en masse. The olivary bodies had a wavy and rigid appearance in sections and felt like hard shells, also projecting above

[4] L'Encephale, November, 1885.

the surface of the cut. The bulb and its vicinity, as well as the pons was equally and markedly rigid, indicating the presence of numerous sclerous infiltrations. The surfaces of the fourth and third ventricles were greatly thickened and could be raised in pieces like bits of moist parchment. The subjacent gray substance was softened and intersected by numerous capillaries, careful microscopical examination of indurated parts showed that the fundamental lesion found scattered here and there through the whole extent of regions invaded consisted of an advancing hyperplasia of connective tissue forming in places depots of infiltration.

These observations show that if in certain cases the somatic troubles of general paralysis do not develop with a complete train of ambitions or hypochondriacal delusions. If the morbid process, so to speak, aborts and remains limited to the automatic centres it is because the higher centres of the brain remain comparatively intact and the morbid action becomes localized either in the spinal cord or in the regions at the base of the brain.

Dr. Savage [5] states that he has seen several who for years have exhibited bodily symptoms in every particular coinciding with those found in the patients in his asylum suffering from general paralysis of the insane, and yet without the slightest evidence of insanity, even without any loss of memory or of self-control, so that in fact, the patient was sound in mind although a general paralytic in body. The reason, he believes, that the condition has hitherto been misunderstood is, that asylum physicians rarely see cases in general hospitals; and general physicians only occasionally have the chance of watching true general paralysis. In his opinion, general paralysis may develop in any of its forms without mental symptoms for a considerable length of time, but unless cut short by some intercurrent or accidental cause, mental deterioration shows itself before the end. The symptoms may be only those of weak-mindedness, and may be so slight that comparatively little importance is attached to them.

SYPHILIS AND INSANITY.

Contributions to the relations of the above disorders to each other have been unusually frequent of late, the drift of opinion being toward decided scepticism as to the influence of syphilis in cases not only of general paralysis, but also of pure insanity in syphilitic patients. There is also but little difference of opinion as to the efficacy of antisyphilitic treatment in such cases.

The proceedings of a medical society in Berlin [6] a few months ago contain the latest view of this intricate question, and as most of the points involved are presented and by competent observers the account of the discussion is well worth perusal.

Mendel called attention to the fact that the Congress at Copenhagen in 1884, showed plainly enough that opinions still differed widely on the question of the relationship of syphilis and general paralysis. But for several years past observations have multiplied and these relations have become better established through most reliable statistics. It is clear that the statistics of large public asylums cannot be utilized, as patients treated there have their mental faculties, particularly the memory, too much impaired to enable them to say with any accuracy whether or not they have had syphilis ten or fifteen years previously. It is different in private asylums, for there the family physician, the parent's relatives and friends can give the necessary facts. In this way Reinhard, who is still not a believer in syphilis as a cause of general paralysis, has found that in the upper classes, general paralysis had been preceded in 73.3 cases out of 100 by syphilis, while in the lower classes he had found (probably from inability to obtain reliable statistics) but 16.7 out of 100 cases. It is through relying on statistics that certain authors deny all relation between syphilis and general paralysis, while others are equally confident that every general paralytic is syphilitic. The objections (aside from that of the inefficacy of anti-syphilitic treatment) which Mendel considers at all serious regarding a positive relationship of this kind, is that in general paralysis it is rare to meet with syphilitic lesions in other organs (he estimates that ten paretics out of one hundred will be found to have other organs also affected). But, on the other hand, the same statement holds true in cases of undoubted syphilitic cerebral lesions, gummata for example.

In order to demonstate the relationship in question, Mendel has had recourse to experimental investigation. He recalled in the first place certain recent experiments in which a dog fastened to a revolving table with the head toward the periphery and subjected to 130 rotations a minute. He died in about half an hour. On opening the head general hyperæmia and meningeal hæmorrhages were revealed. But in the case of an animal subjected to 110 revolutions in eight or nine minutes the process being repeated each day for a fortnight, all the symptoms of a cerebral affection were produced, namely, ataxia, paresis of the legs and of the muscles of the face, trunk and nape, change in his barking, and trouble with the urinary excretion. At death, several months later, after he had run through all the motor symptoms of a general paralysis, the lesions of this disease also were found, namely, pachymeningitis, chronic adhesive arachnitis, internal hydrocephalus and cortical intestinal encephalitis.

By investigations in the same direction Dr. Mendel endeavored to ascertain whether a moderate hyperæmia could not produce the same troubles after the walls of the cerebral vessels had been rendered more permeable. Following Popow, who has shown that corrosive sublimate produces alterations in the walls of the vessels of the cerebro-spinal system, he injected into a dog, each day for about a month, half a syringeful of a solution of 0.025 gr. of corrosive sublimate in 50 gr. of water. At the end of that time the animal was subjected to moderate rotation as above described for some minutes. He died four days later, and numerous hæmorrhages of the cerebral cortex were found. Another dog received for the same time three-fourths of a syringeful of the same solution and was left undisturbed for two months. He was then given each day from eighty to ninety rotations within three or four minutes. He died in five days with the symptoms of general paralysis. The reader, in applying these results to man, stated that in a large number of cases general paralysis had its prime origin in changes in the cerebral vessels, the walls of which, as had been demonstrated in the majority of cases of general paralysis, had become more permeable and under the influence of an active hyperæmia allowed the blood globules to escape, thus forming the starting of an interstitial inflammation. The vascular alteration may possibly, but by no means certainly, be due in some cases

[5] On Insanity and Allied Neuroses, 1884.
[6] Reported in Annales Medico Psychologiques, November, 1885.

to syphilis, in others to the excessive use of nicotine, alcohol, or mercury. This hyperæmia which these antecedent changes make possible and which give rise to the cortical lesions of general paralysis, may be due to excessive emotion, traumatism, intense heat, etc. Here we have all the factors which are necessary for the production of general paralysis.

It should not be surprising that no benefit follows syphilitic treatment in cases of this class, as the lesion is not a pure specific alteration but merely an inflammation resulting only partially from syphilitic change.

Dr. Westphal dissented from these views. He placed no value whatever on statistics, and declared that it was extremely rare to find syphilitic lesions at the autopsies of the insane, no matter what the form of mental disorder, and that the proportion of ten in one hundred was far too great. As, on the other hand, there were no characteristics by which syphilitic changes in the cerebral vessels could be recognized, all conclusions on the subject were premature. Moreover, Dr. Mendel had said nothing regarding the calibre of the vessels affected. The larger vessels were almost never involved in general paralysis, and as to the smaller ones, he had not even described the alteration they underwent, which was probably an hypertrophy of the tunica adventitia, a change which occurs under a variety of circumstances and which has not the influence upon the circulation which theory ascribed to it. As to violent emotions they figure as an etiological factor, not only in general paralysis, but in a number of other forms of insanity.

Hospital Practice and Clinical Memoranda.

FOUR CASES OF PLACENTA PRÆVIA.

BY OLIVER S. LOVEJOY, M.D., HAVERHILL, MASS.

CASE I. October 23, 1883, I was called in great haste to see Mrs. X., who was said to be flowing more than was good for her and needed assistance at once. The patient, I was informed, was about six or seven months along in pregnancy. She recently rode some twenty-five miles over a rough road, and had commenced flowing before she reached home. On examination found the placenta in the bed, but the child had not been expelled from the womb. The flooding had entirely ceased though there was a large quantity of blood in the bed. The womb had closed quite firmly over the child's head, and it occupied some time to remove the fœtus. This mother was well-developed, healthy and strong, and had had one child some two years previous. Had a good getting up and was none the worse for the loss of blood.

CASE II. January 6, 1884, had been to some distance to visit a patient and was on my way home, when called into a house I was passing to see a sick woman. The husband kindly informed me he guessed there was not much the matter, only the wife was a little nervous and thought she ought to see a physician. The woman was in bed; said she expected to be confined in a few weeks but did not think it was then time; had no labor pains but was flowing badly; had had one or two hæmorrhages before, but not so severe. She was a large woman, weighing about two hundred pounds. This was her sixth or seventh pregnancy, all former labors had been natural. On examination of the bed I should have said two or three quarts of blood had been already lost, though I was informed there were two gallons or more. On farther examination per vaginam, the placenta was found to cover the os completely, which was open to the size of a silver dollar, not rigid but flaccid; no membranes could be felt. The finger was passed through the centre of the placenta and the membranes ruptured. A very large amount of water escaped, immediately followed by a loop of the cord and hand and arm. I attempted to return the cord and arm, but most signally failed, and as the mother resisted every effort to do so, I sent to the city for an assistant and ether.

Very little hæmorrhage after the escape of the water. I plied the patient well with Squibb's fluid extract of ergot, but could get no labor pains. After assistance arrived I found the placenta hanging out of the womb. Removed it entire and separated the cord. Then without the use of ether turned and delivered. The child weighed something over ten pounds. On the fourth or fifth day after delivery called to see the mother and found her sitting up knitting a sock for one of the older children.

CASE III. August 13, 1884, was called to Mrs. X., in labor. Had visited her one month previously, at which time it was supposed labor had commenced. She was flowing badly at this first visit, and I was informed three or four floodings had occurred previously varying in time from two to four weeks. When I arrived at the bedside, found she had fainted dead away, and the bed was literally soaked in blood. Here was an entirely different case from the others, it being the first pregnancy and the patient a little bit of a woman, who in her *best estate* never weighed over ninety pounds, could ill afford to spare any blood, and was pale and chloroic at all times. The womb was but slightly open and the placenta firmly adhered about the os. The pains irregular, occasionally quite firm, then weak or entirely absent. In this case, as in the preceding one, the cord prolapsed and had ceased to pulsate. The child being evidently dead I concluded to deliver as soon as possible. I attempted to apply the forceps but the womb was not sufficiently open to do so. Opened the child's head and delivered. The mother was extremely prostrated from the great loss of blood, but before I left the house reaction had taken place and she did very well. Ether was given by an assistant.

CASE IV. November 6, 1884, 6 o'clock, A.M., received a note asking my assistance as soon as possible in a case of placenta prævia. The patient, a woman of some twenty-six or twenty-seven years of age, was in labor with her third or fourth child. She had had no pain and the womb was but slightly open. The flowing at this time was not as profuse as it had been at an earlier stage. The foot of the bed had been raised and the vagina was full of large firm clots of blood. The bed was full of blood, a large-sized vessel was one-fourth full, and I should think there was three pints in a slop-pail. The foot of the bed being raised had allowed the blood to flow back and there were not many dry threads in the garments on her person. She was plied with ergot and brandy as long as the stomach would retain them, and had fainted a number of times, and was almost pulseless. The cord as usual was prolapsed and had ceased to pulsate before my arrival. The os at this time was open to the size of a

half dollar and the placenta could be felt to one side. I opened the head and removed the child as soon as I could sufficiently open the womb. I did not attempt to use forceps for fear of another gush of blood, which would have been quite likely to have proved fatal. The patient made a good recovery.

In two of the above cases the placenta passed before the child, and with them the flooding ceased.

DILATATION OF PHIMOSIS.

BY CHARLES W. HARWOOD, M.D., OF WORCESTER, MASS.

About five weeks ago, H. S., a young man of twenty-four, came to consult me in regard to a phimosis. The prepuce, stretched to its utmost would allow a circle of less than three-eighths of an inch in diameter to be seen of the glans. As he contemplated marriage he was desirous of relief, but dreaded the operation of circumcision.

I had seen in the *British Medical Journal* (November 8, 1884, and January 31, 1885) articles upon this subject, the first of which articles has reappeared in *Braithwaite's Retrospect* for July; but as I was not able to procure readily the instruments described, I improvised one which, though ludicrously simple, perfectly answered the purpose.

It was made from an ordinary clothes-pin. I split the pin through to the end, and, cutting away to a proper angle the inner side of the shorter arms, I had twin levers of the first class, which a rubber band at the point of bearing kept together. The ends and edges of the longer arms were carefully filed smooth. I also provided half a yard of elastic cord which, when wound around the shorter arms, gave the necessary power.

I inserted the well-oiled ends of the longer arms between the prepuce and glans, and found that I could obtain by my rubber cord any degree of dilatation; but the stretching was far from being so painless as one of the correspondents of the *Journal* asserts. Accordingly, before my next trial I applied the four per cent. solution of cocaine, using four drops, and after ten minutes four more. Then waiting ten minutes longer, I inserted the instrument and dilated the foreskin readily, and without causing the slightest pain.

I repeated the operation twice a week, and now the prepuce easily passes over the glans.

The instrument costs altogether less than five cents, and as it will accomplish its work readily and painlessly (thanks to cocaine) I have thought it worth presenting to the notice of the profession.

Reports of Societies.

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL OBSERVATION.

H. L. BURRELL, M.D., SECRETARY.

January 4, 1886, Dr. E. M. Buckingham in the chair.

Dr. H. W. Cushing read a paper on

SUBLUXATION OF THE RADIAL HEAD IN CHILDREN.[1]

Dr. Fifield said that the subject of the paper was one that had excited discussion for a long time.

[1] See page 77.

The injury occurs in both adults and children. In adults the cause is a fall upon the hand which may occasion displacement of that member anteriorly or posteriorly. In children the cause is due to lifting the child by the arm or hand.

There have been two autopsies in children; one where the head of the radius was found resting on the outer condyle; in the other a portion of the cap of the radius was found broken. Sometimes it is impossible to reduce the deformity.

As early as 1837, Gardner, and at the same time, Goyrand of Aix, investigated the subject and both said that the dislocation was due to a displacement of the triangular fibro-cartilage at the wrist-joint.

One theory that has been advanced to explain the deformity is, that the projection on the radius is hooked beneath the ulna, until strong supination is made; but this is untenable, owing to the distance between the bones being too great. It has been thought that the turn of the head of the radius upward carried with it a portion of muscle that produced the dimple so often seen.

Dr. R. M. Hodges has written a paper upon the injury, which had been accepted as an authority.

Dr. Fifield spoke of the extreme ease with which the deformity could be reduced; at times the head of the radius actually slips back while the surgeon is examining the patient.

An injury which was extremely liable to be confounded with a dislocation is "paralysis from twist or sprain;" in this injury there is of course no sub-luxation but the arm hangs limp at the side.

The diagnosis is said to rest upon, the head of the radius being felt in its normal position in the "paralysis from a twist or sprain."

Dr. McCollom had seen three cases of the injury; the first went back very easily and quickly; the others were etherized, on account of the painfulness of the examination, and were then easily reduced. In the last case there was a marked swelling. The first case was treated with a simple figure-of-eight bandage but the others were immobilized for a little time by an internal angular splint. He called attention to the custom of nurses and parents carrying children across walks, etc., by seizing and lifting them by the arm.

Dr. Spear said that he could emphasize the statement made by the reader that all cases do not recover spontaneously. He described a case where there had occurred a dislocation of the head of the radius which had been followed by partial anchylosis preventing the individual from carrying the hand to the head.

In some English publication he had seen that an osseous outgrowth from the injured periosteum was the cause of limitation of motion at the elbow-joint. He considered that this arm was an example of that condition. In the arm he spoke of, the rotation was perfect but the flexion was impaired by osseous outgrowth. He inquired if the reader had found any recorded cases where this osseous outgrowth had taken place.

Dr. Cushing said that Hutchinson had reported an acute osteitis following the injury, and that permanent enlargement of the elbow-joint is mentioned by Linderman.

Dr. C. P. Putnam spoke of a case where the dislocation had recurred five or six times in a few years. The dislocation had been so easily reduced that the parents of the child had sometimes reduced the luxation.

DR. S. H. DURGIN then read a paper upon

THE CARE OF CONTAGIOUS DISEASES.[2]

DR. A. H. NICHOLS remarked that while it was true that a few authorities (like Murchison) believed that certain zymotic diseases might be generated by the introduction of filth in a state of fermentation, on the other hand, a larger number of those who favor the theory of spontaneous origin do not deny the causative influence of a specific poison. They simply assert that this specific poison may originate from causes independent of antecedent cases of the disease to which it gives rise: filth being reckoned but one among many predisposing causes.

DR. MCCOLLOM thought that disinfection when thoroughly carried out would be found a very satisfactory sanitary measure. He did not consider isolation the only thing to be done in cases of scarlet fever and diphtheria, but was a firm believer in the usefulness of disinfection. He considered that the disinfection of typhoid fever stools was a very important matter. Of the many cases of typhoid fever which occurred this last autumn, a large number of the patients were found to have contracted the disease out of the city.

He considered that the well-water in many places, especially picnic grounds, was not an uncommon source of the disease. He felt that an advance had been made when physicians were required to report cases of contagious disease. He recalled the case of a child who while returning from the country was in the railway car with a person who had diphtheria; in about five days after the child's return it became ill with the disease. As a disinfectant he recognized the value of corrosive sublimate, but he disliked to use the solution owing to its close resemblance to water. He preferred to use Labbaraque's solution or the permanganate of potassium.

In cases of small-pox, for example, isolation is not the only thing; he considered the disinfection by burning sulphur a very important sanitary measure. Although vaccination has done much to check the spread of small-pox, Dr. McCollom felt that disinfection had demonstrated its value. As showing the efficacy of disinfection, he cited the fact that no second case of small-pox had appeared in this city, after the removal of the patient and a proper disinfection of the premises had taken place.

Further, no patient, to his knowledge, had ever carried the disease out of the hospital. The clothes were hung up in a room exposed to the fumes of burning sulphur at least for twenty-four hours. At the Boston City Hospital, a few years ago, a case of small-pox appeared; this was removed and only one case, as far as he knew, ever occurred after its removal.

At the jail, a few years since, he had an experience with isolated cases of small-pox. These cases were at once removed, and disinfection of the cell and clothing was thoroughly carried out. No cases appeared afterward.

DR. C. E. VAUGHAN instanced the spread of typhoid fever in a family of seven persons, which was apparently due to the careless use of the water-closet in which the dejecta were placed.

DR. J. B. AYER said, I do not wonder that some observers feel that the theory of germ contagion does not explain *all* facts regarding contagious disease. It is, for example, hard to understand why physicians so rarely communicate disease in going from house to house.

Ten years ago I made inquiry regarding the origin of scarlet fever in my Dispensary cases and found only twenty-two per cent. traceable. At the same time I was surprised to find that numerous children escaped after exposure to the disease. I found instances where children who had kissed a scarlet-fever patient, or had slept with one, had not contracted the disease. But I am not inclined to give weight to this negative evidence, and I believe, with Dr. Durgin, that every contagious case depends upon germs from a previous case of the same disease.

I believe in the strictest isolation, and insist upon a sheet being placed outside of the sick-room door sufficiently large to cover the whole space and to allow with more safety the door to be opened at will.

I would not rely upon disinfecting fluids or powders in the room, but would recommend that this sheet be kept moistened with a strong disinfecting solution.

I do not bathe scarlet-fever patients with disinfectants, but *always use strong antiseptics in the local treatment of diphtheria.*

I believe in sulphur fumigation. Dr. Durgin has recently disinfected a children's home in this city successfully with seven hundred pounds of sulphur.

DR. HAVEN inquired if Dr. Durgin had had experience in the use of arsenic as a prophylactic in scarlet fever.

DR. DURGIN replied that he had never used it.

DR. HAVEN suggested that the objection to the colorless character of solutions of corrosive sublimate might easily be overcome by coloring the solutions with some simple coloring matter: permanganate of potassium colored the bed-linen, indigo was suggested.

DR. J. F. COUCH, of Somerville, said that it is pretty difficult to prove that there is any belief in the theory that disease is to be regarded as an evidence of the anger of the Deity. I must dissent from the view advanced by the reader, that the recent outbreak on the part of the French-Canadians in Canada was due to such a belief. A more rational explanation would seem to be that the old-time antagonism existing between the two races, the French and the English, found this method of expressing itself. My experience with the French people in the city in which I reside, leads me to believe that they have no special objection to vaccination.

I am fully in accord with the reader in his views of the contagiousness of certain diseases, and believe in the necessity of isolation and disinfection as advocated by him. Having a few years ago a special interest in this subject, I made, more particularly with regard to diphtheria, notes of the sanitary condition of the houses in which this disease occurred. My experience did not tally with the reader's, for while he found, in Boston, of the houses in which there were cases of diphtheria, only twenty-one per cent. in poor sanitary condition, I found fully ninety-seven per cent. in poor condition. I believe in the contagiousness of diphtheria, but I know of cases in which there had been no known exposure. Of the contagiousness of typhoid fever, more especially since my own unpleasant experience with that disease, I have no doubt. I am glad that the two members of the Boston Board of Health who are present express their belief in its contagiousness. A few weeks ago another member of the Board was reported in the *Sunday Herald* as saying that it

[2] See page 75.

was not contagious. Accepting the theory of contagiousness of the three diseases to which I have referred, it will be seen that to restrict the spread of these diseases it will be necessary to isolate the patient and thoroughly disinfect the premises. Except as applied to small-pox, disinfection is not in my opinion thoroughly done. Loose windows and doors not fitting snugly to their frames, require such an amount of packing to make the room air-tight, that, practically, we find the gas escaping from the room almost as fast as it is made by the burning sulphur.

There will be no material headway made against the extension of these diseases until the work of isolation and disinfection is as thoroughly applied to them, as it is in the case of small-pox, by the Boston Board of Health. Boards of health have all the power they need in dealing with such cases, and those of cities and towns adjoining each other should work together in dealing with contagious diseases.

DR. E. H. STEVENS spoke of a house where, after four fatal cases of diphtheria, the family had moved out; the paper was removed from the walls of the room, and the house was disinfected with burning sulphur. Another family moved into the house and had diphtheria.

DR. DURGIN replied to a question as to what instructions were given, to those who did the disinfections, as follows:

First. To tighten up the rooms, that is, to pack the window-frames with cotton, etc.

Second. Everything in the room should be so exposed, that the fumes of the burning sulphur should come in contact with it.

Third. Three pounds of sulphur to every one thousand cubic feet of space, is burned rapidly by the addition of alcohol.

Fourth. This is continued for six hours.

This fumigation is pursued after cases of small-pox, scarlet fever, measles, and diphtheria.

DR. STEVENS inquired regarding the treatment of the mattress, as he felt that it might be a direct source of contagion.

DR. DURGIN said that he should take off the covering, shake out the hair, and fumigate with sulphur.

DR. PAGE mentioned, in connection with, and as bearing upon the remarks of Dr. Stevens, an instance wherein a mild case of scarlatina occurred in a family with two children, in which complete separation and isolation were faithfully carried out, the other child being sent away from home. After recovery, and before the return of the well child, the room was thoroughly fumigated with sulphur, the paper on the walls removed, the room repainted and repapered, the mattress steamed, and afterwards cleansed with naphtha, the family not feeling satisfied that steaming was sufficiently protective; and yet, within three months after the second child's return, she came down with scarlatina. Assuredly, this case could not have been owing to contagion, pure and simple. It must have originated wholly from infection.

On the other hand, while a general practitioner of medicine in an adjoining State, he had often noticed in his own experience, which was large, that it was not of infrequent occurrence, in epidemics of scarlet fever, to have *one* child out of a numerous family of children, attacked with the disease, and *none of the others*, notwithstanding no attempts at disinfection, isolation, etc., were made by the family; nor were any precautions taken by them to prevent the other children from mingling freely with the sick one. While he did not wish to intimate that disinfection or quarantine were valueless, he thought that the question of the susceptibility of patients to this particular disease, which varied greatly in children, as, in fact, it does in all contagious and infectious diseases, was one which was too often overlooked. This susceptibility, or rather, want of susceptibility, was also the probable explanation why so many children escaped the disease, even after they had been exposed to it.

DR. ERNST said that he thought Dr. Durgin was mistaken in saying that the general opinion was that diseases and *disease-germs* have existed always in just the form, and with just the properties of which they are now possessed; that there is no reason for denying that an evolution of these forms may have taken place. The point to be settled is whether the pathogenic powers of a special form of micro-organism being proven, those properties can be altered by any means within our knowledge.

At this point, in reply to a question, DR. DURGIN said that he had always considered a contagious disease as "one which required an actual contact with the disease or thing." An infectious disease he considered "one that travelled through the air." He considered that the terms were used very loosely and interchangeably.

DR. ERNST said there should be a more exact use of the terms *contagion* and *infection*. It is difficult, oftentimes, to discover what the authors using the terms mean by them. Dr. Durgin's definition seemed to be the one ordinarily accepted. Dr. Durgin speaks of two classes of physicians being opposed to each other in the matter of pathogenic properties in bacteria — the one affirming, and the other denying that these lower forms of life have any power for harm in the human system. Conviction has been so widely spread among physicians, that it cannot, at present, be said that there is a *class* of medical men who deny the pathogenic powers of certain of the bacteria — *provided* that only those are considered who know something of the subject, and it is to such that Dr. Durgin refers in his paper. It is rather the *botanists* who are arrayed in opposition to the assertions of the bacteriologists.

Dr. Durgin advances the theory that certain diseases differ in their power and rapidity of transmission, because of the difference in weight of the organisms producing them. This seems to be something new, and the grounds for such a statement are unfamiliar to me. My own theory in regard to these differences in weight, which differences are, I think, too slight to permit of any differentiation, but by differences in the nature of the various bacteria themselves. For example, the bacillus of tuberculosis grows only at a certain temperature higher than is ordinarily found in the air; this temperature must be constant for some time, and there must be other conditions of moisture, nutritive soil, etc., to permit of its complete development. This explains why, with no reference to differences in weight, tuberculosis is not more evidently propagated from one case to another than it is, and why it differs from Asiatic cholera — the bacterium of which flourishes with such very great vigor at a lower temperature, and in much less time.

Dr. Durgin and some of the other gentlemen have spoken of the specific organisms of a number of diseases as if these organisms were definitely isolated and recognized. This, notably in regard to small-pox, yellow fever, typhoid, and scarlet fever. If the bacteria

of any of these diseases have been so definitely studied as to be certainly connected with the disease, it is strange that something more has not been said in regard to them. Certainly, the one who has isolated the bacterium of small-pox, should have made an effort to obtain the prizes waiting to reward efforts in that direction, and Dr. Sternberg's failure to find the specific cause of yellow fever is well known.

The report of the Committee on Disinfectants of the American Public Health Association, is a good one, and must be accepted, as far as it goes, for the present. It certainly reflects very great credit upon the members of the Committee who made it. From a scientific point of view, it is imperfect, however — as the authors themselves state — by reason of the few organisms experimented upon, and also because of the present imperfect condition of our knowledge of bacteriology. We should all be glad to know of the position of our Board of Health, and of the views which Dr. Durgin has expressed here this evening.

DR. C. P. PUTNAM inquired if fumigation with sulphur rotted cotton cloth.

DR. DURGIN said that he thought not, as a general rule, although very rarely the fumigated clothes of patients were quite tender.

DR. PUTNAM inquired if the bathing of patients with chloriated soda had any other effect than as a disinfectant.

DR. DURGIN considered that it was not unpleasant, and felt that it might aid in confining the disease to the bed. Carbolic oil was used in cases of small-pox.

DR. PUTNAM thought that chlorinated soda might make the patients sore.

DR. HAVEN suggested the use on scarlet-fever patients of corrosive sublimate soap.

DR. DURGIN, in reply to a question, stated that carbolic acid was used to wash the floors and walls of a room, and the burning sulphur to fumigate the room.

DR. J. L. HILDRETH said that he did not think that disinfection and isolation were carried far enough. He considered the law that prevented children from attending school for a specified time after recovery from the disease. He thought that the decrease of deaths that occurred in the community following the passage of this law might be explained by the subsidence of an epidemic. He mentioned some experiments which had been performed under the auspices of one of the local boards in England, which showed that the propagation of scarlet fever did not depend upon epidermal scales, and asked Dr. Durgin if he considered the desquamated epidermis as a means of spreading the disease.

DR. DURGIN replied that he knew nothing to prove that the scales were a direct source of contagion.

DR. HILDRETH inquired whether there was a definite safe period as regards contagion following a case of scarlet fever or diphtheria.

DR. DURGIN considered the two weeks' law an absurdity. He thought that when the skin was smooth after scarlet fever, danger was passed. He thought that the school law had greatly diminished the deaths from contagious diseases. The first year the mortality from scarlet fever was cut down three-quarters, and remained at a low point until 1883. The death-rate from scarlet fever at one time for a number of years, was from three to six hundred per annum, and immediately following the passage of the school law, the mortality dropped as above stated. For the last two or three years the mortality had been gradually increasing again.

DR. BUCKINGHAM said that the proposal to disinfect the skin of scarlet-fever patients by carbolized oil inunctions, is, in his opinion, dangerous, because of the rapid absorption of oil by the skin of these patients. He also said that he had seen a number of single cases of scarlet fever at various times, at the children's room of the dispensary, and, although the waiting room is often close and crowded, he had never seen any spread of the disease among the patients there in attendance. These cases had been mostly in the early part of their sickness, and he asked Dr. Ayer if, in his cases of exposure without contagion, there had been any observation as to stage. Of course his own observation was liable to the fallacies attending such inquiries in an out-patient room. He further inquired regarding the process of preparing patients for discharge from the small-pox hospital.

DR. MCCOLLOM said that the patients had six to eight baths, with a little carbolic in the water, previous to leaving the hospital.

DR. DURGIN closed the discussion, and said that he was a firm believer in the efficacy of the disinfecting of stools of typhoid-fever patients.

In answer to Dr. Couch he said that the Board of Health had always been in the habit of using large quantities of disinfectants in vaults, cesspools, and other foul places. Formerly sulphate of iron was used, but for the last two years we have used corrosive sublimate, which is much more powerful as an antiseptic and germicide. Although we might not suspect the presence of a disease germ, the use of these disinfectants is still called for to prevent decomposition, putrefaction, and foul odors.

He said that regarding the germ of small-pox and typhoid fever, he had considered that it existed by analogy. He continued: Dr. Ernst must have misunderstood me in regard to the discovery of the germs of small-pox and scarlet fever. I said I should be equally pleased with himself to learn that these germs had already been demonstrated.

The speaker felt that in speaking of germs, one naturally spoke of them as lighter than one another, for we know that the contrast in the contagiousness of certain diseases is very great; for instance, it is an established fact that in a yellow-fever epidemic, those who reside in the lower floors of a dwelling-house are particularly apt to contract the disease, while those who live in the upper stories are usually exempt from an attack. He fully accepted that the weight of a germ was not demonstrable, but considered that it was an instinctive way of speaking.

He felt that the susceptibility of the individual was a large factor in determining an attack of any contagious disease, particularly scarlet fever. Regarding the thoroughness of disinfection, he instanced a house on Charles Street, near the river, where several died with scarlet fever. The rest of the children were sent away. The house was thought to be thoroughly disinfected. On the return of the children, after a considerable lapse of time, scarlet fever again appeared. This was repeated twice in the cases of other children who moved into the house. He thought that the soil through a broken drain might become infected, and not reached by an ordinary disinfection. He did not consider that an example like this detracted materially from the advantages of disinfectants.

He did not believe in destroying the clothing of patients, or any article of value, but considered that efficient disinfection can be made sufficient.

In regard to the unsanitary condition of houses, and the comparison of the statistics of Somerville and Boston, he said that Dr. Couch had misunderstood his figures, for on investigation, only twenty-one per cent. of the houses were found in a *sanitary* condition, thus leaving seventy-nine per cent. in an *unsanitary* condition. This makes the comparison between the investigations not so unlike.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

W. E. HUGHES, M.D., RECORDER.

STATED Meeting, January 14th, 1886, the President, J. C. WILSON, M.D., in the Chair.

DR. T. S. K. MORTON presented a cancer of the lower third of the œsophagus, with metastases to the stomach and liver, from a woman, aged sixty-one years, of good family history. Her illness commenced, by her account, eleven weeks before her death, with jaundice, vomiting, constipation, and lancinating pain in the right hypochondrium. The vomiting became uncontrollable, the matters several times containing coffee-ground material. After death, there was found a scirrhus cancer of the lower third of the œsophagus, extending to the stomach, with no narrowing of the œsophageal lumen. The retro-peritoneal glands were involved, and the head of the pancreas slightly. Scattered through the liver and stomach, were numerous secondary nodules.

Also cirrhosis of the liver, with perihepatitis, removed from the body of a woman, aged forty years, who had been an excessive consumer of strong spirits. Symptoms had been present for five years, the most prominent of which were general œdema, with marked ascites and diminution of the area of liver dulness. She died of an intercurrent attack of facial erysipelas. The liver weighed thirty-six ounces, and was strongly adherent to neighboring structures. At its entrance into the liver, the portal vein was much contracted, and below this point, dilated.

Also, amyloid degeneration following chronic dysentery. The patient, a girl, aged twenty years, had no history of syphilis; there was a perfectly good family history. She had been in poor health, but with no positive symptoms, for two years. Last summer, she had whooping-cough. After that, she improved steadily till three weeks before her death, when profuse diarrhœa, with high fever, set in. This was the first attack of looseness of the bowels she had had. Jaundice gradually developed. The liver was found to be enlarged. The urine contained albumen and casts. The diarrhœa persisted, the passages containing blood and pus. At the autopsy, the liver, spleen, and kidneys were found infiltrated with amyloid material, and the large intestine was, throughout, in a state of chronic dysenteric ulceration. Dr. James Tyson said this was the first case he had ever met with in which there was this association of amyloid disease with dysentery, as the etiological factor, although this seems the only possible cause in this instance, where the possibility of syphilitic disease seems excluded.

DR. W. OSLER thought it was well recognized that chronic dysentery might be followed by extensive amyloid disease. He had met with one or two instances in connection with chronic diarrhœa, which post-mortem examination showed dependent on chronic dysentery, with very much the condition of bowel present in Dr. Morton's specimen.

Dr. Osler presented a spindle-celled sarcoma of the retro-peritoneum, with extensive thrombotic degeneration, and gave a history of the case. A man, aged sixty years, was admitted to the University Hospital in September, 1884, with an abdominal tumor, which had been noticed for about six months. He had lost flesh and strength, but there was no pain. The tumor formed a solid mass, occupying a median position, extending above the umbilicus; could be readily separated by palpation from spleen and liver. The case was regarded as one of Lobstein's retro-peritoneal sarcoma. For several weeks, the patient passed daily, over seven pints of clear urine of low specific gravity, without sugar or albumen. The patient was subsequently admitted to St. Mary's Hospital, under Dr. O'Hara, and while there, Dr. Mears aspirated the tumor, the upper part of which had become soft, and drew off nearly two quarts of bloody serum. At the autopsy, the tumor was found to occupy a central position, was covered by peritoneum, and was attached to the tissues in front of the symphysis pubis, and seemed to have grown from the subperitoneal connective tissue in this region. The upper part of the mass was represented by a soft, fluctuating cyst, containing blood and shreds of firm thrombi; the greater part formed a solid mass, which, on section, presented a brownish-red color, was firm, dry, and had all the appearance of an old unstratified thrombus. In an area, at least, 7 x 8 inches, this remarkable condition existed. At the lower part, there were two or three grayish-white masses, evidently of a sarcomatous nature. The capsule was formed of condensed fibrous tissue, beneath which, in many places, were recent extravasations.

The weight was estimated as, at least, eight pounds. The lymphatic glands were not enlarged. The kidneys were fibroid. The liver presented several secondary masses, one the size of an orange. Microscopic examination showed the primary and secondary masses to consist of closely-packed spindle-cells. The reporter drew attention to the rarity with which spindle-celled sarcoma forms a large abdominal tumor, and to the unusual site of origin. The most interesting feature was the remarkable transformation which the greater part of the mass had undergone. This was attributed to repeated hæmorrhages, and the gradual conversion of the extravasated blood into a dry, hard thrombus. Such a thrombotic change in a tumor was most unusual, and he had not been able to find reference to a similar instance. A third point referred to was the polyuria, which was, doubtless, due to irritation by pressure on the renal nerves; and lastly, a reference was made to the facility with which the growth might have been removed.

DR. J. E. MEARS thought the growth could have been removed, though the removal would have been attended with some hæmorrhage.

DR. TYSON would like to ask Dr. Osler what, in his opinion, was the effect of thrombotic degeneration on the histological elements of tumors; and again, is it possible for clots to be converted into the tissue of the original tumor, as is asserted by some?

The PRESIDENT remarked that the case was of much interest from a clinical standpoint, in view of the possibility of surgical interference, and asked Dr. Osler

whether the conditions, as found *post-mortem*, suggested any means by which such a tumor as this could be diagnosticated from a similar growth, occupying the more usual position in the lumbar region.

DR. TYSON, in connection with the clinical history, called attention to a retro-peritoneal sarcoma, presented by him to the Society last winter, which had been mistaken by him and others, for a tumor of the kidney.

DR. OSLER, in reply to Dr. Tyson's first question, stated that the only remnants of sarcomatous tissue were two or three small, but very distinct, portions in the lower attached part of the tumor; the remainder had wholly undergone this thrombotic change, and in the upper part, had become converted into a blood-cyst. This change was, no doubt, slow, with first, a destruction of the sarcomatous elements by the blood-clot, and then a slow process of necrosis. There was no evidence, in any part of the tumor, of an invasion of the coagulum by the sarcomatous elements, as is not infrequent in thrombi in other regions, as he had seen in the portal and renal veins. The chief interest in the specimen lies in the remarkable extent of the thrombotic change. Looking at the clinical aspect, he had diagnosticated the case as one of retro-peritoneal sarcoma, from its large size, its being so centrally placed, its slight movability, its distinct separation from liver, kidney, and spleen, not being placed more on one side than on the other, and from the fact that palpation in the lumbar regions gave no pain, or other evidence of kidney lesion. It was firmer above the brim of the pelvis than any other tumor he had ever examined. One remarkable feature about these tumors is their painless character; this man complained of no pain, and in two other similar growths which he described at length, pain was not a symptom.

Recent Literature.

Elements of Inorganic Chemistry, Descriptive and Qualitative. By JAMES H. SHEPARD, Instructor in Chemistry, Ypsilanti High School. Boston: D. C. Heath & Co. 1885.

This is an excellent elementary treatise, particularly well adapted for use in high and preparatory schools. The book is written with special reference to the method of instruction recommended by the author, which contemplates, in addition to didactic instruction by the teacher, a considerable amount of experimental work by the student. A scheme of qualitative analysis is included.

A Treatise on Practical Chemistry and Qualitative Inorganic Analysis. By FRANK CLOWES, D. Sc., London, Professor of Chemistry at the University College, Nottingham. With illustrations. Third American, from the fourth English edition. Philadelphia: Lea Brothers & Co. 1885.

The adoption of this book in America, and the demand for a third American edition, justifies the favorable opinion which we have previously expressed concerning it. In the present edition, the original plan of the book has been maintained, but it has been carefully revised, and, in parts, rewritten, and some additions have been made. We recommend this work as an excellent laboratory guide and text-book.

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THE APPOINTMENT OF SURGEONS IN THE MARINE HOSPITAL SERVICE.

THE Annual Report of the Supervising Surgeon-General of the Marine Hospital Service for the fiscal year 1885 contains, as always, various matters of interest, and refers to one subject that is of national importance. Although the service has often demonstrated its usefulness, Congress has never made suitable provision for the appointment of medical officers. Bills to this effect have been repeatedly introduced and favorably reported by committees, but have never yet been reached for consideration, and the examination and appointment of medical officers is still a matter of regulation only.

The important duties which are entrusted to the surgeons of the Marine Service make it more and more important that a select class of men should be attracted to the corps, and it is difficult to imagine that any one would seriously urge the appointing power to cause the setting aside of regulations so obviously in the interest of humanity as those that require an examination for admission to the medical staff, simply to obtain a place for a friend, however needy, but experience has shown that nothing short of law will prevent such attempts with each recurring change of administration. Dr. Hamilton firmly believes, and we trust not without reason, that the merit system will ultimately prevail, and become firmly established.

It is hardly necessary to recall the fact that this service is not occupied alone with the health of the sailors of the merchant marine, but that in addition to other duties, the quarantine service of the United States continues, as for the past three years, under the management of this bureau. Additional interest is given to its operations by reason of the extensive epidemic of cholera which has appeared in Spain, and reappeared in its old haunt in the south of France.

This service consists, first, in a foreign inspection service; second, in the home quarantines; and third, the inspection, when circumstances render it necessary, of trains coming from Mexico and Canada, the former as protective against yellow-fever, and the latter as against small-pox. The duties of the inspectors in

foreign ports are to make a personal inspection of vessels bound to the United States, the emigrants intending to sail thereon, and their baggage and personal effects. The second and third divisions of the service are carried out by the medical officers of the service.

Whatever value one may attach to quarantine service, it is necessary that it should be entrusted to men of zeal and intelligence. In this way only can its best results be obtained, and it is little to ask of Congress that the bureau of which so much is required, should be strengthened by such enactments as shall secure the faithful enforcement of such regulations in regard to examination of candidates as already exist, that the present high character of the service be maintained, and proper inducements be held out to its medical officers to make the service their life-long occupation.

THE THERAPEUTIC INUTILITY OF CALCIC PHOSPHATES.

Recent experiments tend to throw doubt as to whether phosphate of lime, given for medical effect, is ever assimilated by the organism.

Heiden, of Pommeritz, experimented with twelve guinea pigs, all of the same litter; four were vigorous, four less strong, and four were very feeble. These were divided into sets, four in each: two strong guinea pigs being associated with two weak ones. To one strong and one weak one was given phosphate of lime mixed with the ordinary food; to the other two pigs of the set only food was given. The experimentation lasted forty-three days, and the sole result obtained appeared to be augmentation of calcic phosphate in the excrements.

Heiden concludes from these experiments that phosphate of lime is not assimilated.

The same conclusions result from the researches of other German observers. Weiske has shown that phosphate of lime added to the feed of milch cows, not only is not assimilated, but is not even eliminated in the milk. Sanson, professor of the school at Grignon, has repeated these experiments and arrived at the same conclusions, namely: that phosphate of lime, added to the daily rations of animals, is not appropriated, and all passes out in the fæcal matters and in the urine.

THE SLOANE MATERNITY HOSPITAL.

One of the daughters of the late Mr. Vanderbilt, Mrs. William D. Sloane, has announced her intention to erect and endow, in connection with her husband, a maternity hospital, to belong to the College of Physicians and Surgeons. It will be a building of brick and terra cotta, three stories in height, and one hundred feet long by seventy-five feet wide. With this building, will be presented to the trustees of the College a sufficient sum of money to furnish the necessary income to completely support it as an absolutely free institution. Exactly what will be the amount required for this purpose cannot yet be determined. It is to be known as the "Sloane Maternity Hospital," and will be erected immediately; its position being just west of the college buildings now in course of erection.

The college, through Mr. Vanderbilt's liberality, owns twenty-nine building lots, but ten of which are occupied by the college proper. Four others, at the corner of Tenth Avenue and 59th Street will furnish ample room for the Maternity, which is designed for twenty-five beds, and the plans for which are now being prepared by the architect of the college building.

Although this hospital will be under the control of the Faculty of the College of Physicians and Surgeons its business management will be in charge of a separate board of managers, consisting of five members, of which the president of the college is the chairman *ex officio*. The four gentlemen selected for the first board are William D. Sloane, representing the donors; Cornelius Vanderbilt, representing the board of trustees of the college; and Professors J. W. McLane and Francis Delafield, representing the Faculty.

A FATAL ERROR IN DIAGNOSIS.

The principal surgeons of the Hospital St. Spiridon, of Jassy, a city of Moldavia — Drs. Russ, surgeon-in-chief, and Scali, assistant-surgeon — lately committed the unpardonable blunder of mistaking a case of seven-month's pregnancy for one of cysto-sarcoma of the right broad ligament. An operation was undertaken for the removal of the supposed tumor, when a well-developed fœtus was found of the age before stated, and which lived several hours.

The details of this shocking affair are given in the *Gazetta Medicala Jassy*, a journal edited by members of the hospital staff. The mother died on the eighth day after the operation. The surgeons concerned in this case were condemned by the Superior Sanitary Council, with the recommendation to the proper authorities that their licenses be revoked. They, however, appealed to the Courts, and, after a hearing, were acquitted.

MEDICAL NOTES.

— It was announced in recent dispatches from Paris that "Sullivan and Jacques of Boston arrived here to-day to submit themselves to M. Pasteur's treatment for the prevention of hydrophobia. M. Pasteur refuses to inoculate Sullivan, as seventy days have elapsed since he was bitten." Jacques is Mr. Charles Jacobs, a native of Groton, where he still resides on the old farm of Oliver Prescott, Jr. Sullivan is John J. Sullivan, Mr. Jacob's hired man. In the first part of November last, a pet shepherd dog belonging to Mr. Jacobs was taken sick, and died in a few days, during which time the animal had licked an eruption on Sullivan's chin. A horse died shortly after, and, as

some of the animal's saliva had fallen upon abrasions on Mr. Jacob's hand, he determined, although there was no evidence of hydrophobia in either dog or horse, to make assurance doubly sure, and go to Paris for treatment at the hands of the French scientist.

— It is suggested that oil of peppermint is very useful for burns. The oil is painted on the affected part with a camel's hair brush, and the pain is said to be immediately relieved.— *Therapeutic Gazette*, 15th September, 1885.

— The prize of 8,000 francs, offered by the Belgian Academy of Medicine for an elucidation by clinical facts of the pathogenesis and treatment of diseases of the nervous centres, and principally of epilepsy, has not been awarded; but a sum of 500 francs is offered, by way of encouragement, to the author of the essay bearing the motto, "Traditionem pondero, doctrinam respicio, sequor veritatem," on condition that he allow his essay to be printed in an abridged form, with the criticisms of the Commission.

— Professor Chiara has, we learn from the *London Medical Record*, given antipyrin in various pregnant women, and his conclusions are these: 1. Antipyrin in therapeutic doses has no appreciable action on the uterus. 2. Pregnancy does not modify the action of antipyrin. 3. When it is indicated to combat fever arising during gestation, antipyrin may be administered without fear. 4. Antipyrin favors the continuance of pregnancy by subduing the fever, as do other antipyretics.

— Baudet published, some time ago, a study of three cases of nephritis occurring in the same family, from which he was led to the belief that Bright's disease might, in certain cases, be hereditary. This hypothesis has received a certain measure of confirmation from another series of cases published by Kidd (*Ann. de la Société de Med. d'Anvers*, 1885), in which, out of the twelve children of a female suffering from Bright's disease, seven died of the same malady.— *Florida Medical and Surgical Journal, December*, 1885.

— *The Los Angeles Times* gives the following statistics of the climate of Santa Anna Valley, which will be found interesting to the health-seeker: Out of 365 days there were 332 pleasant days in 1880, 323 in 1881, 342 in 1882. For these three years the average temperature was 65°, 65¼° and 65½°. The average temperature for each month of 1885 ranged between 58½° and 73½°. The average velocity of the wind is about four miles an hour.

— Says the *Sanitary News*, of Chicago: "A Committee from the Massachusetts Medical Society, consisting of six physicians, has been appointed to urge upon the Legislature the advisability of the reorganization of the State Board of Health, by separating it from the Board of Lunacy and Charity. It was an act of lunacy to consolidate these three Boards in the first place, and it will be an act of charity to separate them again."

— Dr. H. P. Walcott, of Cambridge, has been in Washington during the past week, in his capacity of President of the Public Health Association. He is trying to unite the National Board of Health and the various State Boards, in support of a bill to establish a National Commission, to be made up of representatives from the various State Boards. We understand that a bill is in preparation with this in view, and that all the health associations will probably unite to urge its passage.

— In a supposed murder case in Detroit, the county physician testified that the victim, a woman, was killed by a blow on the head. Her two sons were placed under arrest. After the examination, the skull was brought to the city and examined by four physicians, who declared that death resulted from pneumonia, and that the fractures which the county physician found, were produced by himself in removing the top of the head to examine the brain. The two sons have accordingly been released.

— The digestibility of cheese depends a good deal, according to Klenze, on its physical properties. All fat cheeses are dissolved or digested with great rapidity, because the molecules of casein are separated only by the fat, and so the solvent juice can attack a large surface of the cheese at one time. Whether the cheese be hard or soft does not appear to matter, and there is no connection between the digestibility and the percentage of water present in the cheese. The degree of ripeness and the amount of fat have, however, considerable influence, for both these conditions render the cheese more friable, and so allow of intimate contact of the juice. Cheddar took the shortest time to digest (four hours), whilst unripe Swiss cheese required ten hours for solution. — *Lancet.*

— Dogs doomed to die in London do not suffer half so much as men who pay the extreme penalty. The unclaimed curs trot into the lethal chamber at Battersea, which is filled with narcotic vapor, produced by passing carbonic oxide over a surface of anæsthetic mixture, composed of chloroform and bisulphate of carbon. Àpropos of this provision a correspondent of the *St. James's Gazette* says: "Perhaps some of those who read in one of the newspapers of the quick, painless and peaceful death suffered by the unclaimed dogs at Battersea may have been struck, as I was, with the thought that the criminals who are condemned by our law to suffer death are treated worse than the dogs. At Battersea, where the arrangements were planned under the supervision of Dr. Richardson, the dogs who are condemned to death are 'wheeled into the chamber, they lie down, curl themselves round, fall asleep, and so their lives are closed.' Surely such an ending for a murderer would not only be more humane, but would be more solemn and impressive than some of the scenes which are reported from time to time in connection with the present system of hanging."

— Our English contemporaries are calling attention to a number of recent deaths of ladies at the toilet through the catching fire of light evening dresses, owing to the inflammable material of which they are made

coming in contact with a candle or gas flame. It suggests as a precaution that muslins and such light fabrics be steeped in a solution of sodium tungstate, which will render them non-inflammable, so that they may safely be worn in dangerous situations. Tungstate of soda is comparatively inexpensive, and, by the outlay of a couple of shillings, the dresses of the whole household may be protected from fire. To three parts of good dry starch, add one part of tungstate of soda, and use the starch in the ordinary way. Should the material not require starching, dissolve one pound of tungstate of soda in two gallons of water, well saturate the fabric, and then let it dry. It will not affect in any way even the most delicate color, and ironing does not interfere with the efficacy of the process. Muslin so treated may be held in the flame of a candle or gas lamp without catching fire, so that, although the part in contact with the flame may be charred, or even destroyed, there is no danger of its spreading.

— A correspondent writes to the *British Medical Journal*, that while the late Dr. W. B. Carpenter lost his life from an accident whilst taking a lamp-bath, yet that valuable remedy (of whose efficacy he was well aware), is in no way to be discredited in consequence of the accident. It would appear that an open gallipot was used to hold the spirits of wine, and that this was upset when he endeavored to rise from the chair. Those who are accustomed to administer such baths, use tin lamps with a broad base, which are difficult to upset, and are, moreover, provided with a wick and cover, and some with hot-water vessels placed over the lamps. The writer recommends, as the best contrivance for this purpose, the Malvern lamp (invented by the late Dr. J. M. Gully and Mr. Hamsher, of Great Malvern). It is made like a school-inkstand, with a movable top, which is removed when the spirit of wine, or methylated spirit, is poured in, and which subsequently serves to regulate the height of the flame. The hot-water vessel will be found unnecessary, as a can of hot water left open and placed between the feet, will answer all practical purposes, thus preventing congestion of the head, and shortening the process by its contribution of warm vapor. The extinguisher should be placed on the lamp by an attendant before the patient attempts to rise.

NEW YORK.

— Dr. Cyrus Edson, Chief of the Second Sanitary Division, has seized between six hundred and seven hundred oranges, recently received from Florida. It seems that they were frozen on the trees during the cold weather of the early part of January, and in consequence, have become unfit for eating.

— At the annual meeting of the Hospital Saturday and Sunday Association, held recently at St. Luke's Hospital, it was reported that $40,407 had, thus far, been received from the collections and gifts to the fund during the year. Other contributions to be sent in, it was announced, would increase the amount to $46,000, and it was hoped that the effect of an appeal recently sent out to a number of corporations, would bring it up to $50,000. The increased amount this year, as compared with last, has been mainly due to the larger collections in the churches. Last year, the hospitals received, after the expenses of the collection had been deducted, the sum of $29,917.

PHILADELPHIA.

— The Mutual Aid Association of the Philadelphia County Medical Society, instituted in May 1878, has now accumulated sufficient funds to enable it to enter upon its benevolent work, and to devote a part of its income to the purposes of its organization, which was principally to assist the families of deceased members where such assistance is urgently needed. This is the first time in its history when it has been able to respond to such calls, because its capital has not hitherto reached the minimum limit established by the by-laws, but it has been enabled to do some charitable work. It is capable of doing very much good, as we know from the history of the New York Society from which it derived its inspiration.

— The recent action of the County Medical Society with regard to the delegates to the American Medical Association, and the passage of the resolution urging a restoration of the *status quo* for the sake of "the promotion of professional harmony," has had quite the opposite effect at home, whatever may be the chances of its ultimate success at St. Louis, of which many entertain grave doubts. The election of the delegates has been contested on the ground that the election was irregular and opposed to the by-laws, which require that the nominations shall be made at the preceding stated meeting. This controversy will serve to infuse new life into the proceedings of the Society for some time to come, and will indirectly be of service in increasing the attendance upon the meetings, and therefore if an evil, it will not be an unmixed one. If all the members could be made to attend and vote, at the next quarterly meeting, it is not improbable that the action of the last meeting would be reversed, and the harmonious advocates of the original committee might find themselves left in the minority.

— At the Pennsylvania Hospital recently, during Dr. Da Costa's clinic, a case was shown which possessed unusual features, and illustrated the effects of a new remedy. A boy, eleven years of age, had been brought into the wards a short time before, suffering with chorea to such an extreme degree that he was completely helpless; he had no power to walk, could not feed himself, and could not even articulate words with sufficient distinctness to make his wants known. The muscular movements did not cease entirely at night. He was given hyoscyamine in doses of 1-200 grain, which was soon increased to 1-100 of a grain given three time a day. This remedy had been used in tremor with such marked effect as to lead the lecturer to give it a trial in chorea. The effect was very marked. In four days the boy was out of bed, and going about the ward, and he had steadily improved since. When shown, nearly three weeks after admis-

sion, the muscles were quite steady and the boy could walk naturally, and he was ready to go home.[1]

— Dr. H. C. Wood exhibited an interesting case at the meeting of the County Society held on the 20th inst. It was that of a young man, about twenty-five years of age, who presented the following interesting group of symptoms: hemiplegia and hemianæsthesia of the right side of his body, including the face; vertical hemiopia (the right half of the field of vision of the left eye was deficient; the right eye had been lost), decided diminution of hearing in the right ear, and persistent aphasia. In order to account for the symptoms, Dr. Wood inclined to the hypothesis of a double lesion, in the left hemisphere of the brain, one in the course of the motor tract in the internal capsule encroaching upon the optic thalamus, the other in the vicinity of the third frontal convolution, and especially involving the claustrum. The history of the case, unfortunately, was defective. The lecturer regarded a multiple lesion as an evidence of syphilis. At the same meeting Dr. Bruen presented a case of supposed syphilitic disease of the lung, which had improved under treatment, and Dr. J. H. Musser showed sections of a case of syphiloma of the lung, where both lungs were found invaded by numerous miliary gummatous deposits around the smaller arteries especially; there were no signs of attending inflammation of the mucous membrane, interstitial cellular tissue, or the pleural investment of the lungs; the patient died with acute meningitis, which may have been syphilitic also, as similar deposits were detected in the brain.

Miscellany.

ON A CONDITION OF THE INNER SURFACE OF THE UTERUS, AFTER THE BIRTH OF THE FŒTUS, OF PRACTICAL IMPORTANCE.

DR. J. BRAXTON HICKS read in the Section of Obstetric Medicine at the Annual Meeting of the British Medical Association in Cardiff, a note calling attention to a condition occasionally noticed after the expulsion of the fœtus; and which may easily give rise to mistakes of a clinically grave character. (*British Medical Journal*, October 10.) He says:—

When the uterus is emptied of the fœtus, the area of its inner surface is proportionally reduced. If the lining tissue also became contracted to the same extent as the muscular substance, then it would lie smooth and level; but, in some cases, this is not so; consequently, it is thrown into folds or waves, imitating in some instances, growths springing up loosely from the surface. But there is a still further state which adds much to difficulties of diagnosis, and, consequently, to danger in practice; for this inner membrane (I speak from the clinical point of view) is not unfrequently resting loosely on the muscular coat beneath, so that, when the fingers are pressed against it, it glides over the subjacent part, so as to feel very like a portion of the placenta, or the thickened membranes; so much so, that, in some cases, till I had traced it for some distance, I could not tell its exact nature. Where nodules of inflammatory deposit occur in the same case, there this portion is fixed firmly to the muscular tissue beneath, but beyond it is loose; and thus there is a great similarity to the placenta, I mean where the placenta has been already removed. The cases in which I have particularly noticed this condition, are those where I have had occasion to remove the placenta for adhesion. I have not noticed it where, for other reasons, I have passed the hand within the womb, as in ordinary turning; nor in, by any means, every case of adherent placenta. Yet, inasmuch as, in such cases, one does not specially look for such phenomena, it is impossible to say in what proportion it might exist. In the first case that I observed it, it was most marked. It was in a case to which I had been called, of very difficult labor, in consequence of miserably ignorant attempts at delivery, whereby both arms had been brought down over the back, and were drawn down outside the vulva, both humeri having been broken. The placenta was adherent, and in passing the hand to remove it, I was on the point of mistaking this loose lining of the womb for the placenta, and was about to detach it when, in passing my hand over the placenta, I concluded that it was the uterine surface covered by the smooth membranes. To make quite sure, I penetrated the placenta from the amnial surface, where I was quite sure of its presence, and worked outwards to the margin, and thus was able to safely remove it. I need not record more cases, for attention having been once directed to it, it will, I think, be readily comprehended. I am not aware of any one having noticed or pointed out the peculiarity before, though I can hardly think it could have escaped observation; but, in the excitement of the moment, the danger of mistaking the lining of the uterus for adherent placenta is undeniable, and this must be my excuse for occupying your time.

[1] This case was made the subject of a clinical lecture, which can be found in the Philadelphia Medical Times for January 23.

Correspondence.

HUMANIZED VIRUS.

BOSTON, 27 Dudley St., Jan. 25, 1886.

MR. EDITOR, — Had Dr. Chapin been familiar with the effects of long-humanized virus, he would not have written either his first or second letter. The quotation from Dr. Leonard in the latter will conclusively prove to any one who knows what vaccination was in this country sixteen years ago, and is to a great extent in Great Britain to-day, that the stock of virus used by the Health Officers of Providence certainly cannot be that of long humanization, as claimed in the first letter, but must have been modified by renewal from the cow within a comparatively few years.

Virus after one, twenty, or one hundred human removes, is "humanized virus," but that is a very different thing from virus of eighty or even thirty years' unbroken human transmission.

The picture I drew of the effects of the virus now in use by the Health Department of Providence, applied to that virus, as I distinctly stated, *if it had the pedigree claimed for it*, but that it is either an "erroneous" or "purely imaginary" picture of the effects of long-humanized virus, I utterly deny. It is based upon the careful study of a very great number of vaccinations with the stock of the National Vaccine Institution of Great Britain (preserved with religious care in a state of excellence unknown anywhere else, and which it would be folly to say was not the very best and most active stock of long-humanized virus extant)

and also upon the writings of the most eminent observers from the time of Bousquet. If Dr. Chapin will procure some authentic long-humanized virus from the institution named, and watch its effects, he will see that my description is strictly accurate. My father's Report on Animal Vaccination to the American Medical Association in 1877, in which he gives an exactly similar description, was reviewed at great length by the highest authorities and in the leading medical journals of Great Britain. In that country through ignorance of animal vaccination and through prejudice the profession are overwhelmingly in favor of long-humanized virus, and its reputation is guarded with the utmost jealousy. In not one of these reviews was the slightest exception taken upon this point, as there certainly would have been, had it been open to such. Allow me to say that I never held that vaccination with long-humanized virus was not to a greater or less extent protective from variola : but I do hold that it induces an imperfect vaccinia, and that post-vaccinal variola is far from uncommon in subjects so vaccinated. Animal virus on the other hand, produces the perfect disease, and is naturally a far surer protection.

A typical scar, and one proving the most perfect vaccinal effect, is not as was once universally taught in the schools, foveolate ; but is characterized by rays or bands of cicatrical tissue. I do not admire a "deep, *smooth* scar," and never intimated that I did. I repeat most decidedly that the Providence virus cannot be the long-humanized, though I have no doubt that Dr. Chapin honestly believes it to be such. It was to guard against just such sources of confusion and wrong deductions, that I stated in my paper that the comparison suggested was not now possible here.

Yours respectfully,

STEPHEN C. MARTIN, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING JANUARY 16, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Scarlet Fever.	Typhoid Fever.	Diphtheria and Croup.
New York	1,340,114	652	263	14.84	14.55	1.05	.75	8.25
Philadelphia	927,995	—	—	—	—	—	—	—
Brooklyn	644,526	—	—	—	—	—	—	—
Chicago	632,100	—	—	—	—	—	—	—
Boston	390,406	167	39	7.77	19.73	1.80	.60	4.20
Baltimore	408,520	144	58	12.42	15.81	.69	.69	8.28
St. Louis	400,000	—	—	—	—	—	—	—
Cincinnati	272,400	—	—	—	—	—	—	—
New Orleans	234,000	105	26	6.65	12.35	.95	—	1.90
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	87	28	15.47	19.14	—	2.38	7.14
Pittsburgh	180,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	42	8	12.00	26.84	—	—	2.40
New Haven	62,882	—	—	—	—	—	—	—
Nashville	54,400	23	12	25.10	17.40	—	—	13.05
Charleston	52,286	40	14	7.50	15.00	—	—	—
Lowell	64,051	36	10	16.66	27.77	—	5.55	11.08
Worcester	68,383	18	11	5.55	16.66	—	—	5.55
Fall River	56,863	26	11	26.95	11.55	11.55	—	—
Cambridge	59,660	26	6	19.25	7.70	3.85	3.85	7.70
Lawrence	38,825	—	—	—	—	—	—	—
Lynn	45,861	10	2	20.00	30.00	—	—	—
Springfield	37,577	13	0	7.69	7.69	—	—	7.69
Somerville	20,992	—	—	—	—	—	—	—
Holyoke	27,894	5	2	20.00	—	—	—	20.00
New Bedford	33,393	10	6	20.00	20.00	10.00	—	10.00
Salem	28,084	11	4	9.09	18.18	—	—	9.09
Chelsea	25,709	5	1	20.00	40.00	20.00	—	—
Taunton	23,674	6	1	16.66	16.66	—	16.66	—
Gloucester	21,713	—	—	—	—	—	—	—
Haverhill	21,795	7	1	14.28	28.56	14.28	—	—
Newton	19,759	1	0	—	—	—	—	—
Brockton	20,783	—	—	—	—	—	—	—
Malden	16,407	3	1	—	33.00	—	—	—
Newburyport	13,716	5	1	20.00	—	—	20.00	—
Waltham	14,609	11	1	—	—	—	—	—
Fitchburg	15,375	0	2	30.00	—	10.00	—	10.00
Northampton	12,896	—	—	—	—	—	—	—
91 Massachusetts Towns	—	60	8	—	—	—	—	—

Deaths reported 1,513: under five years of age 516; principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases whooping-cough, erysipelas and fevers) 192, consumption 231, lung diseases 242, diphtheria and croup 95, scarlet fever 22, typhoid fever 12, whooping-cough 18, diarrhœal diseases 18, malarial fever nine, puerperal fever five, erysipelas seven, small-pox two, measles three, cerebro-spinal meningitis two. From whooping-cough, New York 13, Baltimore two, New Orleans, District of Columbia and Providence one each. From diarrhœal diseases, New York six, Providence three, Nashville, Charleston, Lynn and Fall River two each, Boston one. From malarial fever, New Orleans three, Baltimore two, New York, District of Columbia, Charleston and Springfield one each. From erysipelas, New York four, Boston, District of Columbia and Fall River one each. From puerperal fever, District of Columbia two, Nashville and New Orlean one each. From small-pox, New York two. From cerebro-spinal meningitis, Fall River and Fitchburg one each. From measles, New York one. From typhus fever, New York one.

In 108 cities and towns of Massachusetts, with a population of 1,242,372 (population of the State 1,941,465), the total death-rate for the week was 17.16 against 16.98 and 18.18 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,906,446, for the week ending January 2d the death-rate was 25.5. Deaths reported 4,360: infants under one year of age 959; acute diseases of the respiratory organs (London) 610, whooping-cough 168, measles 163, diarrhœa 49, diphtheria 41, fever 38, scarlet fever 34, small-pox (Liverpool, two, London and Bristol one each), four.

The death-rates ranged from 16.0 in Hull and 36.8 in Nottingham; Birkenhead 23.0; Birmingham 24.2; Bradford 21.7; Leeds 23.3; Leicester 21.5; Liverpool 27.9; London 26.5; Manchester 29.5; Newcastle-on-Tyne 23.5; Sheffield 18.4; Sunderland 19.6.

In Edinburgh 19.2; Glasgow 23.3; Dublin 37.1.

For the week ending January 2d in the Swiss towns, there were 20 deaths from consumption, lung diseases 24, diarrhœal diseases nine, diphtheria and croup six, small-pox and whooping-cough each four, typhoid fever one.

The death-rates were: at Geneva 10.1; Zurich 13.6; Basle 12.9; Berne 25.1.

The meteorological record for week ending January 16, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps: —

Week ending Saturday, Jan. 16, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday, ..10	29.363	9.8	14.8	6.6	55.0	58.0	68.0	60.3	W.	W.	W.	19	27	8	C.	C.	C.	—	—
Monday, ..11	29.928	8.8	15.6	3.0	76.0	49.0	57.0	60.7	W.	W.	W	14	12	14	O.	F.	C.	—	—
Tuesday, ..12	30.366	-2.5	5.2	10.1	55.0	47.0	56.0	52.7	N.W.	N.W.	W.	12	12	6	C.	C.	C.	—	—
Wednes., .13	30.606	7.7	17.2	4.3	53.0	46.0	69.0	56.0	W.	W.	N.W.	8	4	8	C.	C.	C.	—	—
Thursday, 14	30.780	14.6	24.0	1.5	67.0	45.0	67.0	59.7	N.	N.	N.W.	10	10	8	C.	C.	C.	—	—
Friday, ...15	30.570	20.6	30.9	8.3	65.0	50.0	67.0	60.7	N.W.	S.E.	N.	6	3	6	C.	C.	C.	—	—
Saturday, .16	30.200	27.5	35.8	15.1	70.0	85.0	86.0	80.3	N.	N.	N.	9	12	12	F.	O.	O.	0.0	.00
Mean, the Week.	30.288	12.4	20.4	3.0				61.5											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE FOR THE TWO WEEKS ENDING JANUARY 16, 1886.

SAWTELLE, H. W., surgeon. To proceed to Los Angeles and Wilmington, Cal., as inspector, January, 1886.

GODFREY, JOHN, surgeon. To proceed to Chattanooga, Tenn., and Rome, Georgia, as inspector, January 8, 1886.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JANUARY 16, 1886, TO JANUARY 22, 1886.

WEBSTER, WARREN, major and surgeon. Sick leave of absence further extended nine months on account of sickness. S. O. 15, A. G. O., January 19, 1886.

APPOINTMENTS.

By the overseers of Harvard College in concurrence with the President and Fellows: Edward Lawrence Mark, Ph.D., to be Hersey Professor of Anatomy. William Lambert Richardson, M.D., to be Professor of Obstetrics.

RESOLUTIONS ON THE DEATH OF DR. JAMES H. WHITTEMORE.

At a meeting of the Boston Medico-Psychological Society held on the evening of January 21st, the following resolutions were unanimously adopted:

Resolved, That in the death of Dr. James H. Whittemore the Society has lost a friend who was one of the most active and valued of its original members, whose frankness, charm of manner, and unselfishness endeared him to all.

Resolved, That the Society desires to express its personal grief, its appreciation of his patient courage in suffering, and its sympathy with his family in their bereavement.

Resolved, That the Secretary be instructed to send a copy of these resolutions to the family of the deceased, and cause the same to be published in the *Boston Medical and Surgical Journal*.

J. B. AYER, M.D.,
F. M. TURNBULL, M.D.,
P. C. KNAPP, M.D.,
Committee for the Society.

RESOLUTIONS OF THE BOSTON TRAINING SCHOOL FOR NURSES IN MEMORY OF DR. J. H. WHITTEMORE.

The directors of the Boston Training School for Nurses, deeply sensible of the loss suffered by the community in the recent decease of Dr. Whittemore, desire to give expression to their own great sense of loss in his too early death. Brought into close contact with him in all the details of working a training school for nurses, they ever found him ready to help and forward their work, while his liberality and openness of mind and constant, cheerful co-operation, have had much to do with the present position and activity of the school. The welfare of the nurses was always an object of his closest interest, and the admirable building in which they now live is the result of his energy and care, aided by a most liberal giver to the hospital The nurses will long miss his cheery presence among them, as well as his wise assistance.

The directors themselves, in carrying out their work, owe much to his consideration and courtesy; and their sense of loss and of admiration for his character and heroic endurance is deep and abiding.

To his family they would offer their deepest sympathy.

For the Board, CHARLES P. CURTIS.
ELLEN T. VAUGHAN.

RESOLUTIONS OF PLYMOUTH DISTRICT MEDICAL SOCIETY ON THE DEATH OF W. P. BROWNELL, M.D.

BROCKTON, January 22, 1886.

MR. EDITOR, — In accordance with a vote of the Plymouth District Medical Society held at Brockton, Wednesday, January 20, 1886, I send the following:

Whereas, Dr. Nathan P. Brownell of South Scituate, a worthy member of this Society, died at his home, December 30, 1885, and while lamenting our loss it is hereby

Resolved, that to his family in their bereavement we tender our warmest sympathy, and to the community in which he moved our sincere regret at their loss of a high-minded physician, friend and citizen.

A copy of the above resolutions was also to be sent to his wife. The Society so voting. J. E. BACON,
Secretary of Plymouth District Medical Society.

SOCIETY NOTICES.

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — A regular meeting of the Society will be held at the Medical Library, 19 Boylston Place, on Monday, February 1, 1886, at 8 o'clock P.M. Readers: Dr. T. M. Rotch, "Cases of Interest in Practice." Dr. J. W. Elliot, "A Case of Salpingitis with Severe Symptoms: Removal of Tubes and Ovaries: Recovery." Report of the Committee on the Circulation and Distributions of the Journals.

H. L. BURRELL, M.D., *Secretary.*

SUFFOLK DISTRICT MEDICAL SOCIETY. SURGICAL SECTION. — The regular meeting of the Section will be held on Wednesday evening, February 3d, at 8 o'clock. Communications: Dr. D. W. Cheever, "Chronic Obstruction from Congenital Malformation of the Bowels: Tentative Operation: Death." Dr. George W. Gay, "Laparotomy for Stricture of the Small Intestine: Death: Autopsy."

S. J. MIXTER, M.D., *Secretary.*

CORRECTION.

BOSTON, January 22, 1886.

MR. EDITOR, — In the preceding number of the JOURNAL I am reported as having said that "Da Costa has grounds for the opinion that pericarditis is not influenced by internal medicines." This should read "by salicylate of soda."

Yours very truly, F. MINOT, M.D.

BOSTON, January 23, 1886.

MR. EDITOR, — In the report of the Improvement Society in the JOURNAL of January 21st, page 61, of the discussion of Dr. Abbot's paper on Pericarditis, I am credited with saying that I had never had a fatal case. This is incorrect, for I recall two such at least. Yours truly, G. H. LYMAN.

BOOKS AND PAMPHLETS RECEIVED.

A Manual of Auscultation and Percussion. Embracing the Physical Diagnosis of Diseases of the Lungs and Heart and of Thoracic Aneurism. By Austin Flint, M.D., LL.D. Fourth Edition, Revised and Enlarged. Illustrated with fourteen woodcuts. Philadelphia: Lea Brothers & Co. 1885.

Lecture.

LECTURE ON HYPNONE.[1]

BY DR. DUJARDIN BEAUMETZ,

Physician to the Cochin Hospital, Member of Academy of Medicine, Paris, France.

At the session of the Academy of Sciences for November 9, 1885, I made known, in conjunction with Dr. Bardet, the hypnotic properties of a mixed acetone, known under the name of *aceto-phenone*, or *phenyl-methyl-acetone*, and to which I have given the name of *hypnone*.

Since this first communication, numerous experimental researches have been made on the physiological action of this body, clinical observations have multiplied, the modes of pharmaceutical administration have been perfected, so that to-day we can make an almost complete study of this acetone.

Discovered in 1857 by Friedel, aceto-phenone is the type of a numerous class of mixed acetones having for general formula, $C_{2n}H_{2n-8}O_2$, and which take their derivation from two organic acids, the one belonging to the fatty series, the other to the aromatic series, whence the name of *aromatic acetones* also given to this group of bodies.

This aceto-phenone, which has for atomic formula C_8H_8O, has different names, and if you will turn to the important work of Bourgoin,[2] you will see that it has been successively called *methyl-benzoile*, *acetylphenyle*, *acetylbenzol*, *methylphenylacetone*, *phenylmethylketone*.

For all these chemical appellations, we have deemed it best to substitute, from a practical and therapeutical standpoint, a smoother medical term, and have proposed the name of hypnone, which recalls at once the physiological properties of this body, and the chemical group to which it belongs.

Chemists embarrassed by the scientific exigencies which compel them to give to a substance which they discover names of greater and still greater complexity, seem unable to furnish smooth terms for medicinal substances, and we find the same inconveniences to which we have alluded, in the nomenclature of the new antipyretics. Hence, for the complex names of *dimethytoxyquinisine* and of *tetrahydroparamethyl oxyquinoline* have been substituted for sufficient reasons the briefer appellations, to-day accepted by every body, of *antipyrine* and of *thallin*. We have taken the same liberty with regard to aceto-phenone, for whose numerous synonyms, by the way, there seems to be little justification.

Hypnone is obtained by submitting to distillation a mixture of benzoate and acetate of calcium. It presents itself at the ordinary temperature in a liquid state, but it suffices to lower the temperature four or five degrees for this body to assume a solid crystalline state. Hypnone is a colorless, very mobile, very refractive liquid, boiling at 198°C. The specimen which served for our experimental researches had been very obligingly put to our disposition by M. de Laire. Aceto-phenone is a product of the laboratory; it has not yet been fabricated on a large scale by the arts, hence its retail price is still very high, almost two hundred francs per kilogramme. Limousin, who has studied with care the chemical and physical properties of this body, has shown that it is neither soluble in water nor in glycerine, but that it is very soluble in alcohol, ether, chloroform, benzine, and turpentine. Its density is very nearly that of water; one cubic centimetre weighs 1.6 gms. With the graduated dropping tube of Lebaigue, one cubic centimeter of hypnone gives from 39 to 40 drops. Every drop weighs about two and one-half centigrammes. The reaction of this body is neutral, but it is irritant and caustic and when applied to a mucous membrane, it provokes pain and severe smarting.

Hypnone has a very persistent odor which resembles at once that of newly-cut hay, of convallaria, and of cherry laurel water. This odor is so persistent as to render its administration in potion very difficult; however, M. Vigier, who in accordance with my request, has made a careful study of the best means of administering hypnone has proposed the two following formulæ; the one is a syrup, the other an elixir.

The whole may be thus reduced to the American style of formulating:

SYRUP OF HYPNONE.

℞ Hypnone gtt. xii,
Alcohol at 90° ℥ ii
Syrup Auratii Cort. ℥ x
M. Sig. Every teaspoonful has one drop and the dose is a teaspoonful to be repeated *pro re nata*.

ELIXIR OF HYPNONE.

℞ Hypnone gtt. xii
Alcohol at 60° } aa ℥ iii.
Syrup of Tolu }
Spts. Menth. q. s. to flavor
M. Sig. A tablespoonful when required.

PETIT'S SYRUP OF HYPNONE.

℞ Hypnone gtt. xvi
Alcohol at 90° ℥ i
Glycerine ℥ i
Simple Syrup ℥ ii
M. Sig. A tablespoonful when required. Each tablespoonful contains two drops hypnone.

All these preparations have been abandoned despite the advantages which they present, and this chiefly by reason of the great quantity of excipient in which one is obliged to dissolve the dose of hypnone necessary to provoke sleep. The only really good mode of administration is that of the capsule whether the hypnone be dissolved in oil, after the fashion of Limousin and Adrian, or whether ether be employed as the excipient, as in Clertan's pearls. These capsules contain from five to ten centigrammes of hypnone.

But before studying the therapeutical applications of aceto-phenone, we must describe its physiological and toxic properties. To our first researches on this subject, are added those of Professor Grasset of Montpellier, of Drs. Laborde, Mairet, and Combemale, and finally those of MM. Dubois and Bidot; the latter is even devoting his inaugural thesis to a complete study of hypnone. It is from the sum of these researches that we are able to-day to give a quite complete description of the physiological and toxic effects of aceto-phenone.

These physiological and toxic properties vary according to the animals which are the subjects of experimentation, and according to the mode of introduction of the hypnone. In the guinea pig, when fifty centigrammes (gr. vijss) of aceto-phenone are injected under the skin, a hypnotic torpor is engendered, which soon gives place to a comatose state, in which the animal succumbs in from four to six hours. At the autopsy, numerous sub-pleural ecchymoses are observed; the heart is arrested in diastole, and the flesh exhales the odor of aceto-phenone. When the dose is raised, the toxic phenomena are not increased; and this is ex-

[1] From advance sheets.
[2] Bourgoin. Encyclopedie Chémique, t. vii, p. 341.

plained by the irritant local action of the aceto-phenone and its little solubility from which results that whatever may be the quantity administered by the skin, it enters the economy in but feeble amount.

The hare, like the guinea pig, is sensitive to the action of hypnone, but one may without injury and without causing death, inject two gms. (ʒss) of this substance under the skin. Hypnone entails loss of sensibility in the paw where the injection is made. The temperature falls from 39.6° C. to 38° C.; the urine has the odor of hypnone, and is precipitated by nitric acid; then the animal falls into an absolute inertia, but at the end of twenty-four hours he is perfectly recovered.

This local insensibility produced by hypnone is even more noticeable when the frog is the subject of experimentation, and the paw where the injection of a few drops of hypnone is made, becomes insensible and loses its reflexes. If in the animal you dissect out in each leg the nerve which supplies the gastrocnemius, you observe that while the nerve of the paw where the injection was made has lost its sensibility to electric currents, the other nerve has kept its sensibility perfectly intact.

In the dog the symptoms are variable according to the mode of administration of the medicament; when you employ the hypodermic method, hypnone, even in the dose of three gms. (forty-five grains), does not seem to produce any hypnotic effect, and this fact has been well established by Laborde, Grasset and ourselves.

When hypnone is taken into the stomach, you see sleep supervene, on condition, however, that the irritant action of the medicament on the mucous membrane of that organ does not produce vomiting. Laborde has devised a mixture of hypnone, of glycerine and of water, which is well accepted by the dog, and which in the dose of from one to two cubic centimetres causes insensibility in the animal. We have obtained the same effect with capsules of hypnone, which we have administered to dogs, and without always producing sleep, we have obtained a well-marked state of stupor and inertia, with a dose of twenty centigrammes. But these hypnotic phenomena are much more prompt and complete, according to Grasset, when the medicament is introduced into the lungs by intra-tracheal injection: in this event you obtain profound sleep without causing the death of the animal. It is not so when you introduce the medicament by the veins, in which event the symptoms attain their highest degree of intensity, and the animal always succumbs after this injection.

When in a dog weighing seventeen kilograms (about thirty-five pounds) you make an intra-venous injection of one cubic centimetre of hypnone, you produce a profound sleep with snoring; the analgesia and anæsthesia are complete, and there ensue marked modifications in the respiratory and cardiac functions. These modifications are chiefly characterized by a considerable depression of the arterial tension. The respiration becomes interrupted and irregular. At the end of a certain time the animal wakes, manifests incoördination and intoxication, and succumbs after from six to ten hours. At the necropsy you find appoplectiform lesions, with abundant sanguineous infiltration of the lungs, of the liver, and of the kidneys. The renal congestion is very marked, and causes sanguineous extravasations in the urine. It is worth remarking in this connection, that Grasset has obtained no hypnotic effect in the monkey with aceto-phenone.

To sum up; according to the foregoing experiments in animals, hypnone seems to have a triple action: (1) on the nervous elements, diminishing neurility; (2) on the blood pressure, which it lowers; (3) on the composition of the blood, which in toxic dose it modifies. It is to this triple action that it owes its hypnotic properties. In a clinical lecture which I have lately given on the "New Hypnotics," I have shown that in order that a medicament may be classed in this group it must lessen the cerebral circulation and the excitability of the nervous elements, and in his recent thesis Dr. Pinard has also laid down this principle. Hypnone having thus double physiological action, ought to be classed among the true hypnotics.[3]

Aceto-phenone is eliminated by the lungs and by the urine. It is worthy of note that an article which appeared prior to our communication to the Academy, Popof of Vorsovia and Meneki had asserted that aceto-phenone is transformed in the organism into carbonic and benzoic acid and is finally eliminated in the state of hippurate.

Aceto-phenone, moreover, is toxic, but it will not do unduly to exaggerate this noxious action. In animals this medicament is given in toxic, and not in therapeutic dose, and the very interesting results obtained by Laborde from intravenous injections do not absolutely correspond to what takes place when the medicament is given by the mouth.

When you introduce directly in massive dose into the blood a medicine which is but slightly soluble, and which is irritant, you modify unfavorably the conditions of experimentation with the medicament, and we may compare what takes place with aceto-phenone, with the results obtained with intravenous injections of chloral, a method once proposed by Oré, of Bordeaux, for obtaining surgical anæsthesia, but which has been abandoned by reason of the dangers which attend it. In these cases of intravenous injections of chloral, you get anæsthesia, it is true, but you also get hæmaturia and sub-pleural ecchymoses.

Moreover, as we shall shortly see, the only consequences following the introduction of hypnone into the human subject have been sleep. Even when in the same patient we have prolonged the doses for months, we have never seen any of those effects of denutrition which Mairet and Combemale have noticed in their animals; it is true that we have never exceeded the dose of fifty centigrammes. To finish what we have to say about the toxic action of hypnone, it would seem that the greater or less purity of this substance plays an important part in the production of these toxic phenomena. Experiments made in the physiological laboratory of the Faculty seemed to have settled this question.

These are the symptoms which are observed in a healthy man after the administration of twenty centigrammes (three and one-third grains) of hypnone. In the case of the ether-hypnone capsules, at the moment of the rupture of the capsule in the stomach, there is a sensation of heat followed by a few eructations having the penetrating odor of aceto-phenone; these symptoms are scarcely noticed when the capsules contain a mixture of hypnone and oil. Then, at the end of a time which may vary from twenty minutes to three-quarters of an hour and even an hour, the eyes close and sleep ensues. This sleep is ordinarily calm and it is quite

[3] Dujardin Beaumetz in Therapeutic Gazette, December, 1885. Pinard, On Sleep and on Medicaments properly called Hypnotics.—Thèse de Paris, 1885.

deep; waking is generally easy, without that nausea and loss of appetite which so often attend chloral and paraldehyde. In other cases, however, headache is felt, that heaviness of the head, and that pain over the eyebrows which are so often observed after a drugged sleep. We have never observed any other modification in the economy; the absence of any chemical reagent has never enabled us to detect the presence of aceto-phenone in the urine. The blood examined by the spectroscope has presented no alteration; the respiration and circulation go on as in the normal state. At the same time, we have remarked in certain cases a notable increase of appetite, due, perhaps, to the local irritant action of the medicine.

The hypnotic effects of hypnone are far from being constant, and you will see persons absolutely rebellious to this agent which seems rather to favor sleep than provoke it, being neither analgesic nor anæsthetic in doses of from twenty to forty centigrammes. Nevertheless — and this is an interesting point — its hypnotic action, according to Debois and Bidot, notably augments the anæsthetic effects of chloroform. These experimenters have shown that when you cause a dog to inhale a four per cent. mixture of chloroform, you do not produce anæsthesia, but if previously you take care to inject under the skin one cubic centimetre of hypnone, you then produce anæsthesia as profound as with a twelve per cent. mixture, and when the animal awakes, if you administer to it another cubic centimetre of hypnone, it falls asleep again. According to Dubois and Bidot, hypnone proves itself far superior in these cases to morphine. New researches are being made by these experimenters to ascertain if anæsthesia may not be produced by inhalations of a mixture of chloroform and hypnone. Aceto-hypnone also augments in a marked manner the hypnotic and anæsthetic action of chloral.

As for the therapeutic applications of hypnone, they have consisted almost exclusively in the treatment of insomnia; but insomnia is a symptom of complex origin, and it is necessary here carefully to discriminate the cases.

Having a very feeble analgesic power, hypnone does not seem to act in cases of insomnia caused by the persistence of pain, and in this respect this medicament has proved itself very inferior to chloral. It is the same when the absence of sleep is due to persistency of coughing, as in the phthisical, and we have had no well-marked results from it in such cases. When, moreover, the insomnia results from the febrile state, hypnone has little action, and is inferior to chloral and paraldehyde. But it is not so when we have to do with nervous insomnia, or with that sleeplessness which is produced by cerebral excitation, whether resulting from alcoholic excesses or from mental strain. Here hypnone is equal and even superior to the other hypnotics, and the observations of Huchard, as well as those of Labbé, are absolutely confirmative of those which we have obtained. In these cases aceto-phenone, in the dose of twenty to forty centigrammes, produces a calm sleep, without nightmare, followed by a tranquil awakening, and freedom from that nauseous state which other hypnotics so often determine. But, in order that hypnone may produce its hypnotic effects, it is essential that the patient shall not have been an habitual morphine taker. In morpiomaniacs it fails, as do most of the other hypnotics.

Hypnone has been administered by mouth, and generally in the form of capsules; the dose has never exceeded fifty centigrammes (seven and a half grains). As before said, we have never observed any other than hypnotic effects to follow its use, even after months of administration, nor have we been obliged to augment the dose to obtain the same results.

Hypnone must be administered in massive doses; when given in fractional doses its hypnotic effects do not appear; as Huchard found at the outset of his therapeutical experiments. It is essential, also, that the medicament be administered at the moment when the patient ought to go to sleep, and in most of our observations, sleep followed in a period of time varying from half an hour to an hour and a half.

We have made several attempts to introduce this medicament under the skin; it was in cases of obstinate sciatic neuralgia where the irritant local action of the medicament was not to be dreaded, since the worst would have been the production of those substitative effects which are sought for by the method of Luton. In the dose of ten centigrammes the hypnotic and analgesic effects were absolutely nil, but on the other hand, we found that we had provoked a very severe local irritation, contraindicating the further use of this mode of administration. Cases where hypnone has produced no hypnotic result are sufficiently numerous, nor has such effects been obtained by increasing the dose. This is what happened to Filehne of Erlangen, who at my request made trials of this new medicament; in his practice the medicine failed, even in doses of one cubic centimetre. My only explanation of this want of success is the complexity and multiplicity of the causes which provoke insomnia; it depends largely on the cause whether the remedy be efficacious or not.

Given, however, like conditions of experimentation, similar results may always be expected, and if you reserve hypnone for cases of nervous insomnia or for those determined by considerable cerebral excitation, you will in the immense majority of cases obtain good effects from hypnone in doses of from twenty to forty centigrammes (three to six grains) and you may expect exemption from all unpleasant after-consequences.

We think that hypnone ought henceforth to take its place in therapeutics by the side of chloral and paraldehyde, holding a rank inferior to chloral, however, since this acetone is deprived of analgesic properties, but almost equal to paraldehyde. We say almost equal, because in our way of thinking, paraldehyde, which is but slightly analgesic, determines sleep much more markedly than hypnone. We are persuaded that the different clinical and physiological experiments undertaken at this moment with this new medicament will confirm this first judgment.

We have here, then, a therapeutic agent, derived from that aromatic series which has furnished to therapeutics so great a number of medicinal substances, and we are persuaded that in continuing the study of this aromatic series, in the direction of their chemical constitution, we shall find still other substances useful in medicine.

From all that goes before, we think ourselves justified in drawing the following conclusions: (1) Hypnone is a mixed acetone of the aromatic series. (2) This acetone is toxic, and its greater or less degree of purity seems to have a notable influence on its toxicity. (3) Hypnone in toxic dose produces in animals sleep, analgesia, and anæsthesia; it diminishes the

neurility of the nervous elements: lowers considerably the blood pressure, modifies the respiration, and alters the composition of the blood. (4) In a massive dose of from twenty to forty centigrammes hypnone has never produced in man any other appreciable physiological symptom than sleep; it is a hypnotic, especially applicable to nervous insomnia or that produced by alcoholic excesses, or too prolonged intellectual labors.

Original Articles.

THE PAVILION IN HOSPITAL CONSTRUCTION.[1]

BY ARTHUR C. HEFFENGER, M.D.,
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A FEW years after the completion of the Lariboisière, the pavilion principle attracted attention in Great Britain, but with that form of generosity so often exhibited in the English character, it was quietly appropriated, and put into execution as an English conception. When in 1860 it was determined to erect the Herbert Military Hospital, it was officially stated that the building would be constructed upon the principles set forth in the "Report of Commissioners appointed to Enquire into the Regulations affecting the Sanitary Condition of the Army, 1858," and the "General Report on the Sanitary Condition and Improvement of Barracks and Hospitals," 1861; and these principles are almost entirely those of M. Tenon, more or less altered to bring them up to the standard of the day, as well as to make them conform to certain insular leanings.

The Herbert Hospital is without doubt a great improvement upon the Lariboisière; the pavilions are only two stories in height; the spacing is much more judicious; the ventilation is freer; and the drainage far better. Indeed the long two-storied pavilions of the Herbert indirectly connected by a central building are far more like those proposed by M. Tenon, than those of the Lariboisière. The Herbert ward, though receiving the almost universal approval of English experts, with Miss Nightingale among them, is nevertheless by no means perfect. It is too long, too low, and accommodates too many patients. The water-closets are too near the sick, and are not separated by cross-ventilated lobbies. The mortuary and separation wards are badly, if not dangerously placed, being in immediate relationship with the free sides of the extreme right and left pavilions respectively.

After the construction of the Herbert Hospital, the new ideas spread rapidly on the continent of Europe, Germany being the first, however, to seize upon and improve them. Between 1868 and 1876 several splendid specimens of pavilion hospitals were erected in various parts of Germany, the first opened, the Friedrichshain Hospital at Berlin, being by far the most complete in construction and appointments. In this type of German hospitals the medical wards are two-storied, and the surgical, one; the water-closets are well separated from the wards, and in fact the arrangements throughout are almost unexceptionable. The Moabite Barrack Hospital, of Berlin, deserves special notice, from the fact that it is the only large hospital of its kind on the Continent of Europe, which is strictly civil. It was built in 1872, sixteen single-storied pavilions being put up in three months, and eight more subsequently added. It was originally intended for infectious diseases, but soon became a general hospital, and, as such, is a pronounced success.

Russia shook off her Asiatic insulation under the scientific stimulus of her German neighbors, and showed her latent capabilities by building the Riga Hospital in the suburbs of St. Petersburg. This hospital was finished in 1873, and is supposed to be built on the plan of the Friedrichshain, but many alterations were deemed necessary, on account of the climate, and these changes have necessarily impaired the sanitary efficiency of the pavilions.

Notwithstanding the great improvements made in the construction and arrangement of pavilion wards in the German hospitals, both Great Britain and France continued to build multiple-storied pavilions, examples of which may be found in the Edinburgh Royal Infirmary, Glasgow Western Infirmary, and the new Hôtel Dieu and Hôpital Tenon in Paris. It is but justice, however, to the medical profession of Paris, to state that they condemned, in unmeasured terms, both these French hospitals, and the *Société des Medicins et Chirurgiens des Hôpitaux de Paris* went so far as to appoint a commission to report upon the new Hôtel Dieu, and the Society, after having discussed the report of its commission, unanimously passed the following resolution: — "As it, at present, stands, the new Hôtel Dieu is so constructed as to be absolutely contrary to the fundamental principles of hospital sanitary law."

The importance of general and special isolation in the treatment of the sick, was early recognized in the United States, and the practical application of the principle was splendidly illustrated in the army tent and barrack hospital, used during the War of the Rebellion. Our civil administrations, however, have been slow to appreciate the necessity for radical change in the usual manner of constructing hospitals, so that we have few built upon the pavilion plan, and the Johns Hopkins Hospital, of Baltimore, is the only one deserving of special notice. This hospital was designed, and is being constructed upon the most modern scientific principles, and much credit is due Dr. Billings, U. S. A., for the able manner in which he is superintending its construction. The design embraces twelve pavilions, only half of which, however, are to be erected at present. Two of the pavilions are octagonal in form, and two stories in height, while the others have only one story above the basement, and are of parallelogram form. Accommodation is furnished for three hundred and sixty-one patients. It is, undoubtedly, one of the best built and arranged hospitals in the world, and were it not for the two double-storied pavilions, and a very questionable location of the water-closets, might be considered well nigh perfect.

In the construction of permanent hospitals upon the pavilion system, two plans have been pursued; first, that of aggregation, or the super-imposition of two or more wards in the same pavilion; second, that of segregation, or the building of wards of one story only, but with the same service attachments as in the pavilion block. Both plans have their advocates among eminent men, but the bulk of opinion is now in favor of each ward being a pavilion hospital in itself, with its own accessories, and separated, as much as possible, from the other wards. It has been held that hospitals consisting of pavilions of one story in height, cover too much ground, and are, therefore, too expensive to erect

[1] Concluded from page 75.

in the large cities, where hospitals are mostly considered necessary; that they are very difficult to administer, and finally, are not any healthier than those in which the pavilions consist of two or more stories. In answer to these objections, it may be said, that hospitals being built, presumably, for the best interests of the sick, should be situated always on the outskirts, rather than in the crowded sections of cities, where their first cost and maintenance would be about the same, whether the pavilions were of multiple or single stories; and when the pavilion block has been reduced to a single ward, which thus becomes an individual hospital, with its own requisite service belongings, it is not easy to see how the difficulties of management can be augmented. As to the comparative healthfulness of the two plans of pavilions, though no positive statistics have been collected to show that pavilions of one story yield better results than those of two or more stories, yet upon sound scientific principles, they should, and it is the earnest belief of the majority of those who have considered the subject carefully, that they do. They can be more easily ventilated; they avoid dangerous over-population of surface area; community of service and atmosphere are reduced to a minimum, and weak patients have no exhausting stairways to ascend.

In determining the form of pavilion ward best adapted to the treatment of the sick, it is necessary to bear in mind the essential conditions to be obtained, namely, a sufficient areage and cubic capacity; an unobstructed flood of light at all times during the day; air in adequate volume, pure, in motion, and of proper temperature; and to ascertain which form most nearly fulfils these conditions with the least amount of artificial assistance.

The parallelogram form in general use, is of very ancient origin, and except in diminution of length, and rearrangement of windows and offices, underwent no alteration until the advent of the *Système Tollet*, to be hereafter described. Just why these long hall-like wards have held such despotic sway over the minds of the medical fraternity, it is difficult to say, unless it is a pure matter of prejudice. They are far from cheerful, awkward to administer; equable heating is all but impossible, and draughts are continuous, and, of course, a constant source of danger. Clearly, with all possible artificial aid, they are far from fulfilling the essential conditions of perfect wards.

The nearly square ward designed by the late Mr. George M. Dexter, of Boston, and introduced into the Massachusetts General Hospital by the trustees, in 1844, and further tried in the erection of a pavilion of one story in connection with that hospital in 1872, is a great improvement upon the old parallelogram, and should not be considered as developed from it. This ward is very cheerful and homelike, admits of almost an equal distribution of heat and light to all parts, is not draughty, and nearly every portion is convenient to the service building. It is a decided step in the right direction, but its corners and flat ceiling materially interfere with ventilation. It was recommended for adoption in the Johns Hopkins Hospital by Dr. Norton Folsom, in his suggestions for that institution.

The octagon ward constructed for the Johns Hopkins Hospital by Mr. J. R. Niernsée, the architect, though fulfilling in the main the same conditions as the square ward, by increasing the number of angles, of course, increases the difficulty of ventilation.

That form of ward which more nearly meets all essential requirements, I hold to be the circular. The great advantages of circular structures, especially when surmounted by domes, seem to have been first discovered by Dr. McKenna, a Scotchman, who happened to be in South America about forty years ago during one of the many revolutions which have repeatedly convulsed the petty republics of that continent, and who had the care of a number of wounded. The patients were treated in convent rooms, which were always rectangular, and in convent churches, which were always in the form of domed circles. Those patients treated in the churches did so much better, indeed marvellously better, than those cared for in the rooms, that he was struck by the difference, and induced to make a close study of the matter. This clever Scotchman soon became convinced that circular structures with domed ceilings were far superior to any other tried form for housing the sick. In 1854, when practising in Melbourne, Australia, he advocated the adoption of circular wards in a large hospital about to be constructed in that city, but without avail. Sir Andrew Clark, who recalled the views of Dr. McKenna before the Hospital Association of London in December, 1884, also related at that time how he had accidentally discovered the automatic ventilation characteristic of the domed circle, while inspecting the grand domed circular tomb at Delhi, in hot, calm weather. He inadvertently let fall from his card-case a small slip of tissue paper, which, to his amazement, instead of falling slowly to the floor was steadily wafted upward to the centre of the dome. Afterwards he made repeated experiments of the same nature in various parts of the circular domed temple at Calcutta, and always with the same result. It is quite evident that there are natural air currents directed upward from all parts of a room thus shaped, though the governing philosophy is by no means clear.

The circular ward was also originated independently by M. Baeckelmans of Antwerp, in 1873, and Professor John Marshall of London, in 1878. M. Baeckelmans's plans were made for the Antwerp Civil Hospital, the corner-stone of which was laid five years before Professor Marshall made known his ideas in a paper read before the Cheltenham meeting of the National Association for the Promotion of Social Science, in October, 1878. M. Baeckelmans's views were the outcome of scientific research, while Professor Marshall's were the result of endeavors to devise a large hospital capable of being placed on the site of the present University College Hospital. In January, 1882, I conceived the idea of circular wards from a study of the octagon pavilions accepted by the Johns Hopkins Hospital management. It occurred to me that a circular ward would not only have all the excellent points of the octagon wards, but would possess in addition greater cubage and areage, and from the absence of angles freer ventilation; and furthermore, when surmounted by a dome all these advantages would be greatly augmented. Knowing that the cost of a building bears a direct ratio to its wall length, it was patent that the circle having a minimum wall length for included areage should be naturally the cheapest structural form. I had never heard of any such form being advocated, and it was not till last year, during a correspondence with Dr. Billings, U. S. A., that I learned of the Antwerp circular wards, and of Professor Marshall's valuable paper.

From a review of the facts previously stated, it is evident that to M. Baeckelmans is due the lion's share of credit for having given to the world, both theoretically and practically, the best form of ward yet devised in which to treat the sick.

The wards in the Antwerp Civil Hospital, and in the Miller Memorial Hospital, at present the only completed types, are by no means as perfect as the system admits. I am convinced that the full benefits can be obtained only in a pavilion of one story, where the automatic ventilation characteristic of the domed circle can be best effected. To summarize; the circular ward surpasses all others in cheerfulness: it allows a flood of light to fall upon the patient from almost every direction; heat may be equally distributed in all parts; in areage and cubage it far exceeds any other geometric form yet used; and with the ceiling in the form of a parabolic dome the air space is vastly increased and ventilation rendered almost automatic.

The circular ward that I designed in 1882 has an inside diameter of 67.5 feet, a total areage of 3,578.47 square feet, and an areage per bed of 147 feet. It accommodates twenty-four patients, who have each 2,425.05 cubic feet of air-space, and 41.5 square feet of window. The ceiling is a parabolic dome, fourteen feet high at wall, and eighteen feet high in centre. Through the centre of the ward passes a heating and ventilating shaft. The ward offices communicate by a folding door, and through them access is gained to the general corridor. A sun-room is placed at a point opposite the offices, and the water-closets are judiciously situated and carefully cross-ventilated.

In England military hospitals at Milton and Seaforth, and poor law infirmaries at Hampstead and Burnley are being constructed with circular wards and Sir Andrew Clark intends building a large hospital with these wards at Valetta, Malta, so that the practical working of the idea under varied conditions will be soon demonstrated.

The system of construction originated by M. Tollet, a noted French architect and engineer, and known in France as the *Système Tollet*, was presented to the Academy of Sciences in 1876. It embraces all the best features of modern hospital construction, but M. Tollet only lays claim to originality in the construction of the inside walls and roofs of rooms in the form of a gothic arch ("*de forme ogivale.*") To do this he forms the sides and roofs of wards with curved wrought iron I – shaped ribs placed about five feet apart, the intervening spaces being filled in below with brickwork, and above with either brickwork, tiling or concrete. The outer surfaces of the ward are finished either with tiles or cement, and the inner surfaces, after being plastered are treated to three coats of oil paint. These wards are still parallelograms, and notwithstanding the gothic ceilings and rounded ends are still open to many of the objections to that form. It is claimed, however, that air never stagnates in them; that heating is easy, and ventilation almost perfect; that they afford ample areage, and enormous cubage; that they are incombustible; and finally, that they can be thoroughly cleansed with either flame or streams of water. The system has been applied to hospitals, barracks, schools, and other public buildings; and M. Tollet has insisted always that the buildings should be of one story only, and raised from the earth upon plinths, with thorough cross-base ventilation. Four hospitals in France, namely: the St. Denis, near Paris, Bichât on the ramparts of Paris, Bourges Military, and St. Eloi at Montpellier, have been constructed upon this system, and are pronounced by those who have inspected them and who are considered competent to judge, to be the most perfect specimens of hospital construction now existing.

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CASES OF FUNCTIONAL AND ORGANIC INJURY TO THE CENTRAL NERVOUS SYSTEM, CAUSED BY TRAUMA.[1]

BY G. L. WALTON, M.D., OF BOSTON.

THE cases cited in this paper will serve to illustrate the two great classes, functional and organic, into which nervous injuries may be divided, and to bring out, in a general way, the diagnostic points of practical value.

The name, railway spine, has been long used to cover our ignorance, and many cases of traumatic neurasthenia, and traumatic hysteria have figured, and still figure, as concussion of the spine, myelitis, congestion of the cord, or more vaguely, as spinal injury. It was Page who first called attention to the rarity of organic spinal trouble from trauma without injury to the vertebræ, and the experiences of others, viewed in the light thrown by him on the subject, have confirmed his view that the large majority of the cases upon which claims are based, are functional, rather than organic.

It is important that each case should be put upon its proper basis, and especially, that functional cases should stand upon their own merits, instead of being made to appear incurable and dangerous maladies. Not that these cases should be considered trivial, even though they come under the category of hysteria and neurasthenia, for the sufferings of hysterical and neurasthenical patients are, by no means, necessarily imaginary, and their inability to perform the duties, and enjoy the pleasures of life, may be quite as complete as that of the sufferer from organic disease of the spine or brain. The tendency is, however, to claim, on the one hand, irreparable spinal injury, based on such symptoms as hyperæsthesia of the back and pain on movement, irritable bladder, and at the worst, hysterical paralyses or convulsions; and, on the other hand, trivial damage, the truth lying, generally, between these extremes. The question of simulation will not be alluded to in this paper, although, unfortunately, it plays a large part in the study of these cases.

In a case of this sort, the main questions presenting themselves to the medical expert are, (1) Is the case real or feigned? (2) If real, is the injury functional or organic? (3) What is its exact nature, and what are the chances of recovery? (4) Could such an accident produce such an injury?

[1] Read before the Boston Society for Medical Improvement, January 25th, 1886.

It is only proposed to touch on the second of these questions: Is the injury functional or organic? As illustrations of organic injury, two cases of hæmorrhage into the spinal cord have been chosen, both seen in the Nervous Department of the Massachusetts General Hospital. It will be noticed, by way of diagnosis, that pain in the back, which is almost constant, and very persistent in the functional cases, is either wanting, or only temporary in the organic cases. It will also be noted that subjective symptoms, local pains, emotional tendencies, irritability, insomnia, and allied nervous states, are conspicuous by their absence, while in the functional cases, they play a very considerable part.

The first case is one of unilateral hæmorrhage into the cervical region of the cord, causing paralysis of motion on the side of the hæmorrhage, and of sensation on the other, the paralysis of motion being atrophic in the arm, and spastic in the leg.

Case I. A. G., American, laborer, aged twenty-five, fell, three years ago, from a ladder, about fifteen feet. The ladder fell with him, and he struck against the rounds or sides, so that he was bruised in the cervical and dorsal regions. He did not lose consciousness, but on attempting to rise, found his extremities helpless. Motion improved in the right arm and leg during six weeks; that on the left has remained nearly stationary, after a slight improvement. There was retention of urine for ten days, during which time the catheter was used. There was a sensation of constriction about the abdomen. There was no rectal trouble. The face was not drawn; there was no disorder of speech nor ocular disturbance. At present, there exists a left-sided hemiplegia, with toe-drop, spastic gait, exaggerated knee-jerk, and marked ankle clonus. The flexors, thenar muscles, and interossei of the left hand, are atrophied. There is no loss of sensation on this side. On the right side, there is no loss of motion further than a slight weakness in grip, and other movements of the arm, but there is a loss of sensation over the hand, and outside of the arm, and over the leg and trunk to the median line, extending up to the fourth rib in front, and the spine of the scapula behind. Over this entire area, the head cannot be distinguished from the point of a pin. There is no sensitiveness of the back, or back of neck, no disturbance of memory, or change of disposition. Pain has not been complained of in the back or elsewhere, since the time immediately following the accident.

The second case is, in many respects, similar.

Case II. M. R., thirty-nine, fell, thirteen years ago, from a wagon, striking on the head and shoulders. Motion was lost in all extremities, at first, but in a fortnight, power was recovered in the left arm and leg. Improvement commenced in the right in about a fortnight, and soon power was gained in the right leg, but the paralysis of the right arm, after a certain degree of improvement, remained stationary. There was no loss of consciousness, and no fever. The patient was seen two years later by Dr. Putnam, who found the right arm somewhat smaller than the left, both upper and lower. All motions were possible, excepting those of the muscles supplied by the ulnar and musculo-spinal nerves, but all movements were weaker than on the other side. Extension and straightening of the fingers were impossible. The patient could just manage to touch his thumb and little finger. Degenerative reaction was present in the interossei and extensor communis digitorum. At present, the patient is perfectly well, excepting that there is complete paralysis of the extensors and interossei of the right hand, with loss of electrical reactions. The skin over the extensor aspect of the forearm is colder than that elsewhere. Careful inquiry regarding pain in the back, elicits the fact, that for a few weeks following the accident, there was pain in the back of the neck, and down the right arm, none elsewhere, and none there since, excepting that after severe exertion, he occasionally feels a prickling at the back of the neck. There has been no insomnia, no irritability, no loss of memory, or of ability to confine the attention. There has been no hypersensitiveness to sounds, sights, or movements, in short, no subjective symptom whatever. There has been no sensitiveness to touch of the spine or scalp.

In this case, the hæmorrhage, which was also into the cervical enlargement of the spinal cord, limited itself, finally, to a definite area in the gray matter, so as to destroy permanently, only the motor centres of certain muscles of the right arm and hand. The generalized paralysis at the onset of both cases, was due to the pressure upon other parts of the cord, which was withdrawn with the retraction of the lesion to its final dimensions.

In neither of these cases, was there pain in the back, either spontaneous or on movement, after the first effects of the accident had passed off; and of the immediate pain, it is extremely doubtful how much was due to the hæmorrhage into the cord, and how much to local bruising and muscle strain. In neither case, were mental or "nervous" symptoms present from the first. There were, however, infallible signs pointing to organic injury, namely, atrophy and loss of electrical irritability; and in the first case, ankle clonus, spastic gait, and a distribution of sensory and motor paralysis, which can only be explained by an actual unilateral lesion in the spinal cord.

These organic cases are, however, the exceptions among claimants for damages from falls, blows, and collisions. More common, are those of hysteria and neurasthenia, resulting from the shock, whether to the brain, the cord, or both, or whether to the sympathetic system, through dragging on the intestines, need not be discussed in this paper. In whatever part of the nervous system the injury expends itself, the damage is functional, not organic, and has been aptly compared, by Page, to the result of striking a magnet with a hammer; the magnet remains, apparently, unaltered, but it no longer performs its function. The comparison might justly be carried still farther, for by carefully graduated loading of the magnet, the magnetism may be brought back, although, left alone, it remains permanently inert. Similarly, the nervous system so shattered must, after a reasonable rest, be gradually forced to undertake more and more, or there is danger of the patient's degenerating into chronic invalidism, instead of going on to recovery, which is the result to be hoped for, although not always attained.

The locality of the injury in these functional cases, has been long a subject of argument. The term "concussion of the spine," promises to become obsolete, and even if it does not, such a diagnosis can hardly represent satisfactorily the full extent of the damage, whose symptomatology includes as much mental as physical disturbance. It seems more reasonable to look on the brain as, at least, the principal sufferer, and I ventured, some time ago, in an article on so-called "Spinal Irri-

tation,"[2] to suggest the name "railway brain," to supplant that of "railway spine," intending to include under that title, both hysteria and neurasthenia resulting from trauma.

CASE III. Mr. A., a large, stout man of about fifty-five, was thrown, with some violence, from a horse-car, striking on his hands and knees. He was kindly referred to me, some months after the accident, for treatment of his nervous symptoms, by Dr. Porter, under whose care he was at that time. Withdrawing from his complex of symptoms those which concern us here, we find him, at this time, extremely nervous and irritable, unable to concentrate his attention, or to think continuously. He is extremely sensitive to the slightest jar of the body, driving over the smallest obstacle seeming to cause him great distress. He has complained of pain and stiffness of the back since the time of the injury, and holds his back stiffly in sitting and walking. There is hyperæsthesia of the back, and certain spots on the limbs are so sensitive, that the lightest touch elicits signs of pain. The knee-jerk is greatly exaggerated. There is no atrophy, no paralysis, motor or sensory, no change in electrical reactions, no pupil irregularities, ankle clonus, nor other sign of organic lesion of the brain or cord. The symptoms are said to have dated from the accident, and there is no reason to doubt the fact, especially as there is no thought of claiming damages.

There may have been, and probably was, a predisposing tendency, in this patient, to functional nervous disease, although no special nervous family history was made out. Whether there was or not, the fall may be fairly considered the immediate cause of the symptoms, which have gradually improved. This case should be classed as traumatic neurasthenia, if we limit the term hysteria to cases presenting marked disturbances of sensation, motion, circulation, and the mind. This classification leaves mere nervous irritability and exhaustion under the head of neurasthenia. It is, however, neither possible nor necessary to make an accurate classification, in each case, between hysteria and neurasthenia. Both are, practically, functional diseases, and both may be produced in either sex, by a physical shock, in persons either predisposed, or not predisposed.

The stiffness and pain in the back on movement, in this case, probably represented the remains of a strain of the muscles of the back, and possibly, the ligaments of the spine. The duration of this symptom may be almost indefinite where the effort of breaking in the muscles by enforced exercise is neglected, especially if sensibility to pain is increased by the neurasthenical element, and most of all, if an artificial support, as a plaster-of-Paris jacket, is worn to relieve the muscles of the trunk. Pleasant as may be the temporary comfort of such treatment, its effect is, probably, to postpone recovery by over-favoring the weakened parts.

As examples of the possible, though exceptional, duration of such symptoms, I may mention two patients I have recently seen, each of whom brought on the trouble by lifting too heavy a weight, and favored it by subsequent exposure. In one case, the sensitiveness, pain, and stiffness of the back, supplemented by nervous prostration, has lasted over twenty years, and in the other, fifteen. The former is a claimant for a pension, but the latter claims no damages of any sort, but has worn, notwithstanding this fact, an elaborate artificial support for the past six years, without which, he says, he can neither work nor enjoy himself. I have strongly urged its gradual discontinuance, with regular gymnastics, and other tonic treatment, but whether the patient will summon the necessary strength of will, is a question for the future. In both these cases, organic diseases of the spine and vertebræ were carefully eliminated.

The following and last case may be classed under traumatic hysteria. It was referred to me for an opinion on the nervous element, through the kindness of Dr. Porter and Dr. Marcy, who had been consulted respectively, by the defence and the plaintiff.

CASE IV. J. M., twenty-three, who was well previous to the accident, was thrown about violently by the derailment of the car in which he was riding, the car rolling over down an embankment. He was able to get up and assist others, at first, but soon gave up, and remained ten weeks in bed. Headache and backache were severe and constant. There was retention of urine for a short time. In the notes of my examination, eighteen months later, and just before the trial, I find the following: Loss of sexual power is claimed to have existed since the accident. Improvement has been gradual and steady up to this time. He now complains of quite severe headache, generally at the vertex, with a burning sensation, and of pain in the entire length of the back, increased on motion. He walks stiffly; stooping forwards causes pain in the back and thighs. There is exaggeration of tendon, plantar, and abdominal reflexes. There is a tender spot at the vertex, and tenderness to the touch all along the spine, most marked in the upper dorsal, and in the lumbar region. Pressure over these spots causes an almost convulsive retraction of the back into an opisthotonic position. There are no other sensitive regions. He wears a plaster-of-Paris jacket, which seems to afford much relief, and to facilitate movement. There is anæsthesia of the legs, evenly distributed, and extending to a definite line around the trunk from the lumbar region. Over this entire region, pressure must be moderately severe before it is felt, and all stimuli must be excessive before causing pain. There is slight paresis of all movements of the legs. There is no bladder or rectal disturbance, no atrophy or coldness, no ankle clonus, no loss of electrical reaction; the legs are plump, and are of about the same size, by measurement. There is no disturbance of special sense, the pupils are alike, and react normally. My notes make no statement of his mental condition, but I have the impression that he complained of inability to confine the attention, and apply himself to continuous mental labor. There was a dislocation of the outer end of the left clavicle.

In this case, there existed definite loss of sensation and motion, which could only be of functional origin, considered in connection with the other symptoms. It should, therefore, be classed under hysteria. The persistence of the symptoms, in no wise militates against hysteria, a fact to which Charcot[3] has drawn particular attention, of late, in a lecture on hysteria in the male. Cases are certainly not rare in which symptoms of undoubted hysterical origin have lasted years, without material change.

My opinion, which did not include the surgical injury, beyond disconnecting it from the nervous trouble,

[2] Boston Medical and Surgical Journal, Dec. 27, 1883.

[3] Progr. Méd. 1885, No. 18. Reviewed in Neurolog. Centralblatt, June 1, 1885.

was that the patient was suffering from, (1) the remains of strain of the muscles of the back, and, perhaps, of the ligaments of the spine; and (2) hysteria, brought on, probably, by the shock to the nervous system, and evidenced, mainly, by hyperæsthesia of the back, and anæsthesia and paresis of the legs. The chances for recovery I considered good, provided the patient should make the necessary effort.

The sympathy excited by the sensitive back, and the plaster-of-Paris jacket, in this case, was, evidently, not inconsiderable, and the view of the case presented by the plaintiff's counsel, seemed to be, that loss of sensation in the legs, extending to a certain height on the trunk, must point to serious disease of the spine, at that height, and that the case would terminate in permanent and total paralysis. However far from the facts of the case this view may have been, it was not so absurd, after all, that it should be advanced, when we consider the hazy ideas which have long existed, even among the medical profession, and medical authorities, regarding the symptomatology, course, and prognosis of so-called "railway spine."

Hospital Practice and Clinical Memoranda.

A CASE OF TRACHEOTOMY IN A NEONATUS.

BY H. H. HANSON, M. D., OF ANDOVER, VICTORIA CO., NEW BRUNSWICK.

NOVEMBER 7th, 1881, was called seventeen miles to see a patient who had been in labor three days, and as yet undelivered, although attended by three "*Meddlesome Midwives.*" On my arrival, I found patient apparently happy and contented, as the French generally are, under the most adverse circumstances. Lying prone on the floor, and surrounded by seven women and three of the "male persuasion," two of whom were enjoying the never to be lost sight of fumée; besides "enfants," innumerable.

During the patient's labor she informed me that only a small quantity of broth had passed her lips. I learned subsequently, that during the three days, she had taken about three gallons of pork and pea soup. The child's head had been born about thirty minutes and no pulsation in fontanelles could be detected. Lividity of features, cord around neck, and non-rotation of shoulders. The latter caused the non-success of the female obstetricians. The shoulders of the fœtus being rotated into position and the hook of a Hodge forcep introduced into axilla, delivery was instantly affected. Child's buttock was spanked, alternately sprinkled with cold and hot water. Before cord was ligatured a few drops of blood had been allowed to flow.

Artificial respiration was resorted to, for the period of thirty-five minutes, but all to no purpose. I was about giving up in despair when I thought of a trocar and canula I had in my instrument case (one used for Hydrocele). Placing a small stick of beech under shoulders of fœtus so as to throw the head back and raise the chest, I plunged the trocar and canula into trachea, and thoroughly inflated the lungs, which was in a few minutes followed by expiration, produced by compression of thorax. This procedure was maintained for about fifteen minutes, when to my satisfaction, I could faintly hear a struggle for existence. This was followed by more, until at last it was life, "in all its forms." The canula was taken away soon after, and a suture introduced through integument, and a piece of lint soaked in cold water applied, and kept on by means of adhesive plaster. The child made a good recovery, and is to-day fast becoming able to take its place at the hospitable board of its parents, amid the fearful havoc of pea and pork soup, buckwheat plugs, and "boudan."

REPORT OF PROGRESS IN GYNÆCOLOGY.

BY F. H. DAVENPORT, M.D.,
Assistant in Gynæcology, Harvard University.

OPERATION FOR THE CURE OF STERILITY IN CASES OF CONICAL CERVIX, WITH FLEXION OF THE CERVIX UTERI.

DR. GRAILLY HEWITT[1] describes a new operation for sterility in that class of cases characterized by a conical, elongated cervix, with flexion of the cervical canal, a condition described by Emmet as anteflexion of the cervix. He considers this condition due to imperfect nutrition, loss of tone, and gradually increasing bending of the cervix, which changes occur subsequent to puberty. The principal methods of operation hitherto recommended have been amputation of a portion of the cervix, and the posterior incision, as recommended by Emmet and Sims.

The operation which Dr. Hewitt performed in one case, was as follows: Having drawn down the cervix, he removed from the posterior aspect, in the median line, a portion of mucous membrane nearly an inch in length, and half an inch wide, and having done this, stitched the upper and lower margins together, the effect of the procedure being to shorten the vaginal cervix on its posterior aspect, to draw the os uteri backwards, and thus straighten the vaginal cervix, and increase its patency. When the stitches, three in number, were tightened, the vaginal cervix was made to look downwards, instead of upwards. The sutures were removed after a few days. Conception followed in the course of a few months after the operation.

He considers this operation an improvement upon the two other methods, because the uterus, as a whole, is less mutilated, and presumably, its functions may be supposed to be better exercised when the cervical canal and the os uteri externum are preserved.

ON HYSTERECTOMY.

Dr. Thomas Keith,[2] in this paper, while recognizing the marvellous improvements and results of the last ten years in operative interference in cases of fibroids, yet takes a thoroughly conservative view, and advises the operation of hysterectomy only in extreme cases. The removal of the ovaries and tubes, he says, is an operation full of promise, and, as regards his own work, the result is more satisfactory every time that it is performed. It will not, however, supersede hysterectomy, as there are cases in which, even when got at, the ovaries cannot be separated from the uterine tumor without too great a risk. He advises trying the simpler method first, in all cases where the tumor is small, and

[1] British Medical Journal, June 13th, 1885.
[2] Edinburgh Medical Journal, May, 1885.

does not extend much above the umbilicus. The proportion of cases in which interference of any kind is warrantable is, perhaps, not greater than five per cent. The cases in which he thinks hysterectomy may reasonably be recommended are these:

(1) In very large, rapidly-growing tumors of all kinds in young women.

(2) In all cases of real fibrous cystic tumors.

(3) In most cases of œdematous fibrous tumors which are not cured by removal of the ovaries. They occasionally grow to be very large, even weighing two hundred pounds, according to the author. Sometimes, large quantities of red serum can be removed with much relief, and in this way, the patients carried over the menopause, when the necessity for further puncturing ceases.

(4) In cases of large, bleeding fibroids, when removal of the ovaries cannot be accomplished, provided that the patient is not approaching the menopause. In these cases, as a rule, though there are many exceptions, menstruation goes on much beyond fifty.

(5) In certain cases of tumors surrounded by much free fluid, the result of peritonitis, provided that the fluid shows a tendency to reaccumulate after two or three punctures. Occasionally, when the fluid does disappear, its absence may, from some change in the osmosis, be followed by an extremely rapid growth of the tumor. It is important to remember that long-continued irritation of the peritoneal surfaces by large, solid tumors, is apt to be followed by degeneration of the peritoneum of a sarcomatous or cancerous nature. The microscopic examination of the fluid will, in such cases, keep one from falling into error. Dr. Keith has several times, where large, healthy, uterine fibroids were present, removed fluids swarming with cancerous elements, the source of which was found to be altogether in other organs affected with cancerous disease.

Then follow the histories of several operations, which are of use in showing the different ways of treating the attachments of uterine fibroids, or illustrating some other point of interest.

TREATMENT OF THE PEDICLE IN HYSTERECTOMY.

Pozzi [3] says the treatment of the pedicle in hysterectomy, must differ from that in ovariotomy. First, because septic infection can take place through the cervical canal; and second, because the absolute prevention of hæmorrhage is very difficult. He makes the following propositions:

(1) When the cavity of the uterus is not opened, and there is slight hæmorrhage from the pedicle, the intra-peritoneal treatment of the stump should be employed, after careful suture of the edges of the wound, with insertion of the peritoneum, according to Schroeder.

(2) When the uterine cavity is opened, and the pedicle is too short and thick for the extra-peritoneal method, and there is moderate hæmorrhage, the stump should be dropped after ligaturing with silk.

(3) When the uterine cavity is opened, and there is slight hæmorrhage, and the pedicle is long enough, the extra-peritoneal method is to be preferred; here, the elastic ligature is a useful adjunct.

(4) For long pedicles which have a tendency to bleed, the extra-peritoneal treatment is best, and the elastic ligature alone gives security against hæmorrhage.

(5) With short pedicles which bleed freely, whether the uterus has been opened or not, the intra-peritoneal method is necessary; the elastic ligature is here, also, the only safe method.

(6) Numerous observations (Olshausen, Hegar, and Kaltenbach, Ahlfeld, Fischer), have shown that the elastic ligature can be left without injury.

(7) The temporary use of elastic ligatures aids greatly in the removal of all abdominal tumors. By tying a temporary ligature around the pedicle, and, if necessary, two others around the broad ligaments, one can operate almost bloodlessly.

ALEXANDER'S OPERATION FOR RETROVERSION OF THE UTERUS.

This operation, which was first brought prominently before the profession in 1883, by Alexander, is gradually becoming a recognized operation in Great Britain. It has been performed a few times in this country. It consists in exposing the round ligaments at the external ring, drawing them out, and shortening them, thus lifting the uterus. They are then secured by sutures in the new position, and the organ is held in anteversion.

Dr. W. M. Polk,[4] in a lecture on this subject, gives a history of a case, with some interesting hints as to the method of operating. The patient, who had been a sufferer for years, especially since her last confinement six years previously, was found to have a retroverted and flexed uterus, the body being felt low down in Douglas's cul-de-sac. Cotton pessaries, and other forms had been tried, but abandoned on account of pain and tenderness. The operation in question was, therefore, performed, and was successful in retaining the uterus in its new position.

In commenting on the operation, Dr. Polk refers to the ease with which the external ring is found in the male, and says the conditions are so different in the female, owing to the thick layer of adipose tissue, that it is only after incising the skin, adipose tissue, and superficial fascia, that the external ring can be clearly made out in many cases. Nor is the ligament a well-defined cord. Passing directly beneath the arch over the canal, is seen some tissue resembling unstripped muscular structure, which is vascular, intermixed with fat. This is really the extremity of the cord, and by traction on it, the cord will be brought to view.

A danger to be kept in mind, is sloughing and retracting of the cord within the abdominal cavity. This is due to the cutting off the vascular supply, which comes from two sources; a branch of the ovarian artery, which supplies most of the ligament, and a branch of the deep epigastric, which supplies the extremity. If too much traction is exerted on the ligament, or the extremity is tied too tightly, there will be interference with the circulation, and this accident may occur. Traction may be lessened by holding the uterus up with a cotton tampon or pessary, and the other difficulty may be avoided by passing the stitches longitudinally to the cord, and not bisecting it.

ARTIFICIAL SUPPRESSION OF THE MENSES.

Loewenthal,[5] in a paper read before the Fifty-eighth Meeting of the German Naturalists and Physicians, at Strassburg, attempts to show the practical side of his new theory of menstruation. He first speaks of the

[3] Centralblatt für Gynäkologie, No. 39, 1885.

[4] Philadelphia Medical Times, August 22, 1885.

[5] Centralblatt für Gynäkologie, No. 40, 1885.

method of suppression of the menses, which consists in rest in bed, and hot-water injections. These should have a temperature of 50° C. (preferably, more), as he has observed that at a temperature of 46–47° C., they favor hæmorrhage. The rest in bed should be maintained for some time after the cessation of the flow. In a few cases, he has found cold water more effectual than hot in checking the menstruation. Then follow the details of twenty-three cases, which he had the opportunity of observing for a long time. Eighteen of these were well-marked cases of chronic chlorosis and anæmia, with very troublesome nervous complications, such as severe nervous dyspepsia, general hysterical symptoms, hysterical convulsions, and two cases of hystero-epilepsy. Of the remaining five, two were cases of marked hysteria, and three convalescent from debilitating diseases. In the case of these last, a quicker convalescence was the object of the treatment, and the author thinks it was attained. In the eighteen chlorotic cases, marked improvement began directly after the first suppression, without any other medication, and recovery occurred after from the second to the eighth. Of the two cases of hysteria, one became much better, the second not. In all these cases, the nervous, dyspeptic, and hysterical symptoms appeared after the beginning of menstruation, and were worse at each period Loewenthal has never seen any bad results follow this treatment.

ONE HUNDRED AND SIX LAPAROTOMIES.

Dr. William Tauffer [6] gives the results of the one hundred and six laparotomies which he has performed. He groups the cases according to their anatomical relations, and in the first section, gives the details of fifty-nine ovariotomies. Of these, fifty-four recovered, and five died, giving a mortality of eight and a half per cent. The cause of death was septic infection in three of the cases. In one of the fatal cases, the tumor, in its development, had not only reached the uterus, but had, apparently, so acted upon its muscular structure, as to cause a hypertrophy of it, and an intimate growth of the cyst with the uterus. The cyst could only be separated with great difficulty, and left a surface robbed of its peritoneum, and liable to bleed. Hæmorrhage was the cause of death in this case. In two subsequent similar cases, he performed hysterotomy, as well as ovariotomy, with good result. In thirty-one cases where there was a well-marked pedicle, only one died; in nineteen with broad attachment, there were three deaths. In four cases, in which it was impossible to remove the whole cyst, he stitched the remaining portion to the abdominal wound, and drained through Douglas's pouch.

The second series comprises seventeen castrations, with no deaths. Twelve of them have already been published in the *Zeitschrift für Geburtshülfe und Gynäkologie, Band IX, Heft.* 1.

Of the third series, which comprises hysterotomies and myomotomies, seven cases were operated on with intra-peritoneal treatment of the stump, and of these, four died. A series of seven cases, where the pedicle sewn into the peritoneal wound was treated with chloride of zinc, recovered. In cases where the pelvis is so filled with the tumor, that it is impossible to remove it wholly, he recommends a combination of hysterotomy and castration. Having shelled out as much of the tumor as possible, he removes the ovaries, and applies chloride of zinc to the stump. In this way, large masses of the tumor gradually come away.

The fourth series comprised fifteen exploratory incisions, in ten of which there was malignant disease, and the tumors were not removed. Twelve of the fifteen died; ten in consequence of the character of the disease, and two from loss of blood.

[6] Wiener Medizin. Woch., Nos. 3 and 4, 1885.

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. M. BUCKINGHAM, M.D., SECRETARY.

January 25th, 1886, the President, Dr. F. W. Draper, in the Chair.

Dr. F. C. Shattuck briefly reported as follows:

A CASE OF ESSENTIAL PERNICIOUS ANÆMIA.

M. C., sixty years of age, married, and the mother of several children, entered the House of the Good Samaritan, November 4, 1884. She was a woman of large frame, had always been very well and strong, and had been able to lift a barrel of flour, when younger. For some time, she had been a cook in a restaurant. Her symptoms were those of anæmia and debility, and dated back for, perhaps, a year, though she had worked till shortly before entrance. There was also moderate bronchitis. Under treatment, she gained six pounds in weight, and improved so much that, after two or three months, she was sent to St. Luke's Convalescent Home. There she grew worse again, and was re-admitted to the Samaritan in April. During the spring she was so ill that there seemed, at one time, but small hope of her recovery; but improvement set in, and in August, she was discharged, and went again to work. After working four weeks, she was obliged to give up, and went again to St. Luke's, but, steadily losing ground, was again transferred to the Samaritan, October 15th. After this, she was confined to the bed till her death, January 22d. The marked symptom was anæmia, with inappetence, occasional nausea and vomiting, and attacks of diarrhœa, which yielded readily to treatment. Arsenic, which seemed to have done her good service when she first entered the Samaritan, was given without success, as were several preparations of iron, and other tonics. During a fortnight, dialyzed iron, m. xx–xxx, was given daily, subcutaneously. One abscess, and some hard, painless nodules, not tender on pressure, which were found, after death, to contain iron, resulted. There was, at no time, fever or hæmorrhage, and repeated careful physical examination always gave negative results, except that some enlargement of the heart, with a systolic murmur, probably hæmic, was made out. I regret to say, that an examination of the blood, though frequently contemplated, was never made.

In the absence of any local disease, as well as could be determined, to which the anæmia could be attributed, the diagnosis of primary, or essential pernicious anæmia, was made, and was fully confirmed by the autopsy, which was made twelve hours after death, by Dr. Fitz, who will kindly show the specimens. No cause for the disease, apart, possibly, from overwork, was ascertained.

DR. FITZ described, as follows, the conditions found after death: The skin was pale, of a faint lemon-yellow color, and the fat tissue throughout the body was abundant. The head was not opened. The heart was slightly enlarged, and showed extensive spotted fatty degeneration of the wall of the left ventricle. The blood was pale-red, and liquid. The gross appearance of the spleen indicated nothing abnormal, and its dark-red color was strongly contrasted with the pallor of other organs. On microscopic examination of scrapings, large and small red blood-corpuscles were found, and, occasionally, others of irregular shapes. Large finely-granular corpuscles, with red blood-corpuscles as contents, were rarely met with.

The kidneys were slightly atrophied, and contained abundant pigment granules. The liver was somewhat atrophied, the section of a uniform brownish color, the lobular regions indistinctly marked. The peripheral cells contained a moderate quantity of small fat drops. The common duct was obstructed with mucus. There was nothing noteworthy in the appearance of other organs, with the exception of the bones. The marrow of the fibulæ was uniformly red and translucent, the so-called lymphoid marrow. On microscopic examination, large, red blood-corpuscles were seen, of the size of marrow cells. They were often nucleated, the nucleus sometimes resembling the corpuscle in color, but more refractive; in other cases, they were granular, with a sharply-defined, annular border, resembling the nuclei of marrow-cells. The nuclei of the red blood-corpuscles were occasionally, nodular, suggesting a tendency toward subdivision into two or three smaller bodies. Numerous marrow-cells were found, containing one, two, or three small red blood-corpuscles. In addition to the above-described macrocytes, numerous minute red blood-corpuscles were seen. Multiform red corpuscles were numerous, biscuit-shaped, club-shaped, and caudate. Charcot's crystals were not seen.

The microscopic examinations were made on the day following the post-mortem examination.

DR. J. B. AYER reported a case of

CO-EXISTENCE OF SCARLET FEVER AND VARICELLA IN A CHILD TWO AND A HALF YEARS OLD.

A case of this kind, now under his care, has interested him, as John Hunter taught the doctrine, that the eruptions of two fevers cannot co-exist, and Hebra stated that he had never seen two forms of exanthemata in the same individual, at the same time; and did not believe that any one could furnish proof of its occurrence.

However, it is generally admitted, at the present time, that the co-existence of eruptive diseases is *possible*, although few cases have been reported. The patient, a boy, two and a half years old, was bathed at 11 A. M., January 9th, by a careful and experienced nurse, who saw no eruption upon the body at that time, being then on the lookout for eruptive diseases. He remained well until 10 P. M., the same evening, when he became restless and feverish, and vomited. At daybreak, a fine, uniform rash appeared upon the face, neck, chest, and back, quickly extending downward. At the same time, varicella vesicles were seen on the trunk, and their number multiplied rapidly. There was pruritus, caused, apparently, by the rash, and not by the vesicles. The fauces were reddened. The temperature, the first day, was 101.5°.

The rash was present three days, the highest temperature, during this time, being 102.2°. Later, the temperature did not rise above 99°. Crops of new varicella vesicles kept constantly coming out, till the end of the fifth day. January 16th, seven days from the outset, bran-like desquamation was noticed on the chest, followed, in a few days, by shreddy desquamation of cuticle; principally, upon the palms of the hands, and upon the fingers.

This is the ninth day of desquamation, and shreds of cuticle are still separating. It is probable that the process of desquamation will require another week. Unquestionably, in this case, the eruption of a mild form of scarlet fever has co-existed with that of a typical form of varicella *from the outset*.

As far as Dr. Ayer could determine, one disease has not been modified by the other.

RAPID ŒDEMA OF THE LARNYX.

DR. EDES reported the case of a man, aged thirty-five, an athlete, in excellent health, who was exposed to cold on Tuesday; on Wednesday, had a chill, but went to business, returned early, and was seen in the afternoon, hoarse, complaining of great difficulty in swallowing. Fauces red, but not much swollen. No swelling of the tonsils. The next morning, the appearances were about the same, the voice almost gone, swallowing very painful. A few hours later, he jumped out of bed, said he was suffocating, ran through the entry, making a noise, which, from the description, seemed to have been that of obstruction to inspiration, and died in a few moments.

At no time previous to the final attack, had there been any complained-of difficulty of breathing, nor had dyspnœa been noticed by the attendants. The autopsy showed œdema of the epiglottis, and of the vocal cords, and neighboring parts of the larynx. There was considerable mucus in the bronchi.

DR. GANNETT who had made the autopsy, described the appearances found, which consisted of a marked degree of œdema of the submucous connective-tissue of the epiglottis, aryepiglottic fold and glottis. The appearance of the mucosa of the pharynx, larynx, trachea and bronchi had been so modified by the use of a preservative that no conclusions as to its condition during life could be drawn. The appearances in general were those of death by suffocation.

DR. HOOPER called attention to his report in the *Boston Medical and Surgical Journal*, July 24th, 1884, containing mention of Mr. Jonathan Hutchinson's view, that catarrhal laryngitis is a very definite affection, common in the milder, rare in its severe forms, depending upon exposure to cold, and rapidly and completely passing off if the patient survive; but when severe enough, attended by paroxysms of dyspnœa, which are occasionally rapidly fatal. One report of an autopsy is given, made within an hour of death, in which the larynx and adjacent parts were in a state of extreme congestion, with much œdema, but without a trace of membrane.

DR. MINOT reported a case of

CHRONIC DISEASE OF THE KIDNEYS AND BLADDER.

THE patient, a man forty-five years old, entered the Massachusetts General Hospital, under Dr. Minot's care. He had had repeated attacks of fever and ague ever since childhood, with occasional attacks of pain, swelling and redness of the wrists, insteps, fingers and toes. He had had stricture of the urethra for twenty years. There were tophi in the helix of one ear. The

urine was alkaline, sp. gr. 1014; containing three-fourths of one per cent. of albumen, much pus, waxy casts, much renal and bladder epithelium, and crystals of triple phosphate. He became maniacal, and then comatose, and died in about ten days after entrance.

Dr. Fitz who had made the autopsy, reported its chief features. Œdema of both lungs was present. The heart was not hypertrophied, and the spleen was no larger than that of a child seven years of age. Its artery was small, and its cut surface did not show any special prominence of blood vessels or vasculæ. The follicles were distinct. Moderate amyloid degeneration of the smaller arteries was discovered on the application of iodine. There was amyloid degeneration of the intestines, but none of the liver.

The genito-urinary organs were the chief seat of the disease. There was an old stricture of the membraneous portion of the urethra about a third of an inch in circumference. The surface of the urethra was rough and white in the vicinity of the stricture, from the abundant formation of epidermis. The spongy bodies of the urethra were intimately connected with the perineal skin by dense and contracted fibrous tissue.

Behind this stricture the urethra was moderately dilated and the walls of the bladder were thickened to the extent of half an inch, chiefly by diffuse hypertrophy of the muscular coat. The mucous membrane was thickened and injected and the bladder was firmly contracted, its cavity containing about an ounce of offensive dirty-gray fluid. The ureters were not dilated, and their mucous membrane was of normal appearance. The left kidney, somewhat larger than normal, presented the characteristics of large white kidney and showed extensive amyloid degeneration. The right kidney was about one-fourth the size of its fellow; the diminished size resulting chiefly from the atrophy of all the pyramids excepting two, in consequence of chronic pyelitis over the atrophied portion of the kidneys. The perinephritic fat tissue was indurated and intimately adherent. Amyloid degeneration was present and the right renal artery was diminished in calibre at its origin, from chronic endarteritis, the evidences of which were also visible along the aorta. The anatomical diagnosis was stricture of the urethra and periurethritis, diffuse hypertrophy of the bladder, cystitis, diffuse nephritis, chronic pyelonephritis, amyloid degeneration of the kidneys, spleen and intestine, aplasia of the spleen.

Dr. G. L. Walton read a paper entitled

CASES OF FUNCTIONAL AND ORGANIC INJURY TO THE CENTRAL NERVOUS SYSTEM CAUSED BY TRAUMA.[1]

Dr. Webber said that he thought Dr. Walton does well in making the distinction that an excess of subjective and emotional symptoms belongs to functional and not to organic disease. He mentioned the case of a man who was injured upon a railroad two years ago, and whose right arm was affected by a twist or strain, the right leg being also affected. There is some loss of sensation which might be taken for functional, with more or less shamming, but that there is also a partial loss of electrical reaction. We know that the strain or twist causing a sprained ankle does mischief that may last during life, the patient being now better, now worse. There was here probably a similar strain of a nerve and its most probable seat was in the spinal canal.

[1] See page 102.

Many cases of traumatic injury to the nervous system are undoubtedly central. The speaker referred to the effect of shock as probably sometimes causing disturbances of nutrition from which the patient may be a long time in recovering; or such disturbances may end in scleroma instead of in recovery. He illustrated his meaning with the case of a patient who for four and a half years after all damages had been settled, could not move his leg, but who nevertheless got well. We cannot say why this was, but disturbed nutrition would account for it.

Dr. A. H. Nichols said that in view of the difficulties in the way of diagnosis, and the impossibility of being absolutely sure, when such cases came before the courts great attention should be paid to the reputation of the patient for veracity.

Dr. Edes was glad that Dr. Walton had emphasized the cases in which organic lesions existed, for the reason that since the appearance of Dr. Page's book, the tendency had been to consider nearly all cases of "spinal concussion," "railway spine," etc., either feigned or hysterical. He had seen several cases in the hospital[2] where he had supposed from the presence of ankle clonus, spastic gait, etc., that organic disease of the postero-lateral columns existed. In one case where a man fell on his back across a wheel, and contraction of the upper limbs with paralysis of the lower resulted, he confidently expected to find a fracture, but there was none. The postero-lateral columns, however, were found to be sclerosed.

Dr. Folsom spoke of the difficulty in making a differential diagnosis between organic diseases in which the anatomical changes are slight, on the one hand, and those which are classed as functional (hysteria and neurathenia) on the other hand, especially as regards giving an opinion as to probabilities of recovery. He believed slight disseminated sclerosis to be quite common in many cases of so-called railway spine, for instance, as has recently been stated by Westphal.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Annual Meeting held at the Carnegie Laboratory, January 18, 1886.

ELECTION OF THE OFFICERS.

The following officers were elected for the ensuing year: — President, Dr. Charles A. Leale; Vice-President, Dr. John Shrady; Recording Secretary, Dr. P. Brynberg Porter; Corresponding and Statistical Secretary, Dr. Glover C. Arnold; Treasurer, Dr. E. S. F. Arnold; Members of the Executive Committee, Drs. John H. Hinton and G. S. Wood.

Dr. Lawrence J. McNamara read a paper entitled,

A STUDY OF THE ETIOLOGY OF TUMORS.

The existence in the body of an independent growth, distinct in its histological elements, from the surrounding matter, drawing nutriment from the general system, and liable at certain periods of development to infect the organism, he said, had always been a perplexing, though fascinating subject to the observer. Advances in histological work had enabled us to make a partial classification of these new growths, according as they were formed on some type of existing normal

[2] See Boston Medical and Surgical Journal, September 14, 1882.

tissue, as epithelial, muscular, nervous, or connective tissue. The group of neoplasms under which were ranked tubercle, syphilis, glanders, etc., had a distinct place as formations of an infectious origin; and were no longer considered as tumors similar to those now under discussion.

The class of tumors formed after types of normal tissue which are most frequently brought to the notice of the surgeons, were sarcoma and carcinoma. These were distinguished by secondary formations, or metastases, and the tendency to recur, from tumors of a benign character. These metastatic or secondary deposits bore the same relation to the structures in which they had found a resting place as the parent tumor. They assumed the changes in growth, development and invasions of organs, identical with the primary growth. The channels of infection were the lymph and the blood. In the ordinary cases of carcinoma, examination of the advancing mass showed infiltration of the normal tissue by epithelial cells. The lymphatics were found plugged with epithelial elements, and the glands contained the same distinct cells. In this formation, at least, it was unnecessary to imagine a virus, transmitted to the body from without, as the cause of the proliferation. There could be no doubt of the malignancy of cancers. The metastases, however, were always of epithelial formation, similar to the primary cancer, and the epithelial cells resembled one another in shape and appearance. The important fact lay in the misplaced epithelial cells. Like the forms of vegetable life, the cell was influenced in its activity by the nutriment which surrounded it; and a modification of this condition would lead to a change in its activity. The epithelial cell if placed in a tissue receiving more nutriment than its own, must, undoubtedly show some changes in its activity. The transplanting of the spur to the comb of a cock was a familiar example. In some cases of cancer of the breast it seemed to him that he could make out a distinct connection between the swollen epithelium of the duct and the cells beyond; and this fact had been mentioned by others also. The epithelium in the connective tissue and the duct, seemed identical in form and appearance.

The diagnosis of cancer could not be made until the epithelial cells formed nests in the connective tissue. If this epithelial element did not come from the proliferating interpapillary processes, it might have existed previously; and to suppose this was to admit the embryonic theory of Cohnheim. The arguments advanced by its originator, offered very convincing proof of the etiology of many complex tumors, like the sacral teratomata, the mixed tumors of the parotid, dermoid cysts, etc. Applied to the sarcomatous group of tumors, the theory had no direct proof of their embryonic origin. There could not be as much reason for accepting the belief that the epitheliomas of the lips, pylorus or rectum, originated from an embryonic epithelial cell displaced and started in growth by continued irritation, as for believing that the irritant might cause the invasion of the connective tissue by the proliferated epithelial elements.

In sarcomatous growths more difficulty was experienced in accepting this embryonic theory. Until proof could be furnished that these embryonic cells existed in the body and developed into a distinct tumor under favorable circumstances, the theory of Cohnheim could not be logically entertained. The transplanting of embryonic cartilage to the adult animal, and its development into a tumor, had been thought to prove the fact of the power of embryonic cells to live and multiply in a mature matrix. It was conclusive, however, that the embryonic cells would grow in the mature organism under favorable conditions. Another difficulty in determining the embryonic foci was the similarity under the microscope of embryonic cells, the round cell of inflammation, and the small cell of sarcoma.

DR. MCNAMARA went on to say that the perplexing view of predisposition as the cause of tumors was found in many of the theories, and that it served the purpose of hiding their defects and increasing the obscurity in which the course of their neoplasms lay. Malignant growths had often been compared to the infective granuloma in their course and development. The changes which occurred in these infective neoplasms, such as necrosis and the like, might find counterparts in the malignant deposits of tumors. Clinically, there were other points of resemblance: but the infective granuloma, besides possessing the power of invasion of tissues, might be inoculated. Clinical efforts or experimental works had never been able thus far to connect a bacterium with the cause of tumors.

Still the infectious origin of sarcoma offered at present great attractions. The discovery of a vegetable growth as the cause of actinomycosis had some bearing on this subject; and the tumors these actinomycoses caused, were called, before their parasitic nature was proved, osteo-sarcoma, tuberculous tongue, etc. Sarcoma, when rapidly growing, presented changes of a similar character in the reactive appearance of the cells. If this variety of tumor was caused by a microörganism, it must be of a nature which requires very favorable conditions for its development.

If a microörganism were considered as the cause of carcinoma, the question as to why it should affect the epithelial cells alone did not seem capable of explanation. Microörganisms could not produce an epithelial or connective tissue-cell; since one being could not form another higher in the animal economy than itself. The action of the microörganism was of an inflammatory character, specific in its nature. In carcinoma the inflammatory changes represented the action of the cellular matrix. The same might be said of sarcoma. The hyperplasia of the matrix was but an indication of the efforts of the tissue to cast out or destroy the foreign body. In conclusion, he remarked that it seemed that to no one theory could be assigned the production of these tumor growths.

DR. J. W. S. GOULEY thought that Dr. McNamara's position concerning the question of microörganisms was well taken, and said it was his belief also that it was not likely that a microörganism could end in an epithelial or any other kind of cell. The cell itself was sufficient to give rise to the mischief which was excited in cases of advanced cancer.

The President, DR. LEALE, remarked that the author of the paper had with a single sharp stroke thrown aside the theory of Darwin, when he stated that one being could not form another higher in the animal economy than itself. He then related a case in which he removed a scirrhus of the breast from a lady, three of whose sisters died of cancer. The family history showed that the father, who was a resident of Richmond, Va., had died of a "tumor of the stomach," the exact nature of which could not be ascertained,

and that the mother had died of a "tumor of the liver." In this patient the cancer did not return in the breast, but three years after the removal of the mammary growth she died of metastatic cancer of the liver; the lungs being also finally implicated. One sister had cauliflower cancer of the uterus, and another scirrhus of the uterus. It was a curious fact that the trained nurse who attended the lady whose breast he removed, also had mammary cancer. One year afterwards he removed this also, and a year after that the axillary glands. It would be of interest, he thought, to know whether it was possible that there could have been a transmission of the affection from one individual to another in these cases.

DR. DANIEL BROWN related a case which he thought might serve to throw some light on the etiology of tumors. A young lady, twenty-two years of age, residing in Eastern Pennsylvania, fell on a doorstep and slightly bruised her hip. Afterward no further effects were noticed for some sixteen or eighteen months, when she began to suffer considerable pain in that part. It was at first supposed that she had rheumatism, but afterward a diagnosis of hip-joint disease was made, and a blister was applied. In a few weeks she became unable to walk, and now a small tumor made its appearance over the femur. This growth gradually increased in size, and it was found to be an osteo-sarcoma. The patient was brought to New York and placed under Dr. Brown's care, and at this time the tumor measured twenty-eight inches in its longest diameter, occupying the whole of the ilium, together with the upper fourth of the femur. The late Dr. James R. Wood saw the case in consultation with Dr. Brown, but it was thought best not to perform an operation. The patient finally died, and the growth was found to weigh between forty and fifty pounds. The chief interest of the case lay in the apparent development of this enormous tumor from so slight a cause.

DR. MCNAMARA said that the occurrence of several cases of cancer in one family as mentioned by Dr. Leale, might be due to predisposing causes, such as climatic influences, etc., to which they are all equally exposed.

DR. FRANK GRAUER presented some pathological specimens for Dr. Janeway, who was unexpectedly prevented from being present. The first case was one of

EPITHELIOMA OF THE ŒSOPHAGUS,

in which there resulted a stricture of the latter, four inches in length. Both recurrent nerves were involved, and, during life, there was paralysis of both vocal cords, neither abduction nor adduction being well performed. Another interesting feature of the case was, that the first symptoms appeared after the patient had swallowed a piece of bone, which, he supposed, had become lodged. Tracheotomy was performed by one of the house physicians of Bellevue Hospital, in order to avert impending suffocation from the laryngeal symptoms. He died, as the result of exhaustion, as he was unable to swallow food, and had great distress in respiration. At the autopsy, there was found dissemination of the cancer in the liver, lungs, and bronchial glands. The main point of interest in connection with the case was, from the comparative rarity of the circumstance, the implication of both recurrent nerves by the pressure of the growth.

The second case, the specimens from which were presented, was one of

PRIMARY TUBERCULOSIS OF THE KIDNEY.

There was pyo-nephritis, and the right ureter was obstructed. The inflammatory process had extended from the kidney to the bladder, which was found to be in a condition of tubercular cystitis.

DR. GOULEY inquired whether there was any history in the latter case.

DR. GRAUER replied that there was not, the patient having been brought into the hospital *in extremis*. Very few tubercles were found in the lungs, and he thought that there could be no doubt that it was a case of primary tuberculosis of the kidney.

DR. GOULEY thought that the question might be raised, whether the tubercular trouble did not commence in the bladder, rather than the kidney. In at least two cases of his own, both of which terminated fatally, such was the case; and in one or two others, the tubercle commenced in the urethra. One of his cases, he had the opportunity of following up for a year. It commenced apparently with a mild cystitis, and this gradually became more aggravated, until the ureter and kidney were involved. The tubercular character of the trouble was not, however, at first, suspected.

DR. GRAUER said in reply that in this case the trouble in the bladder was clearly secondary to that in the kidney, since in the latter the disease was much further advanced than in the bladder; while the ureter was open at its lower extremity, where it enters the bladder, but above, towards the kidney, was occluded.

After the meeting, there was a collation and social reunion in the Library of the New York State Medical Association, in the Carnegie Laboratory.

Recent Literature.

Diseases of the Lungs. By PROF. GERMAIN SÉE, Member of the Academy of Medicine, etc. Translated by E. P. Hurd, M.D., with appendices by George M. Sternberg, M.D., and Prof. Dujardin-Beaumetz. pp. 394. New York: William Wood & Co. 1885.

The author of this work is already well known to his professional brethren as a teacher, practitioner, and writer of eminence; and the present volume may be regarded as one of a series to include, when complete, all the diseases of the lungs. "Bacillary Phthisis" appeared in France in 1884, and in an English translation in 1885; the book under review includes those pulmonary affections of a specific but non-tuberculous nature, and the translator tells us that another volume is in preparation. Our attention is thus limited at present to acute bronchitis, acute pneumonia, gangrene, syphilis, cancer, and hydatids of the lung.

That bronchitis may be a local inflammation due to simple atmospheric action on the bronchial mucous membrane and the skin, Sée believes; he says,[1] "If there still remains a disease which may be rightly attributed to thermal influences, it is assuredly common bronchitis. Till a very recent period, cold was regarded as causative in all inflammations; the microbiological researches of the last few years have assigned to the general dogma of disease *a frigore* its proper place. The more important of these, the pneumonias, the pleurisies, the bronchites, as a whole, even rheumatism,

[1] Page 6.

have passed to the ranks of the infectious diseases; there remains but one acknowledged to be amenable to cold alone, namely common bronchitis, or *rheum* of the air passages." That simple primary pleurisy is an infectious disease is news to us, and we should be glad to hear the evidence in favor of such a view; that there is such a thing as septic pleurisy and that it is a thing far from rare we all know, but Professor Sée seems to class all pleurisies as infectious.

The only form of specific bronchitis systematically discussed is influenza, consideration of the bronchial and broncho-pneumonic inflammation of pertussis, measles, and diphtheria, being reserved for a work on the acute infectious diseases other than those of the lungs. Capillary bronchitis, and broncho- or lobular pneumonia may be the result of the extension of a simple as well as of a specific process starting in the larger tubes.

The nature of pneumonia is then summed up:[2] "It results from these different labors that the experimental demonstration of frank fibrinous pneumonia may be considered as accomplished. This pneumonia may be reproduced in animals, but this reproduction is impossible with ordinary irritant agents. In order that the characteristic lesions may develop, it is necessary that a specific agent, a special microphyte, shall be brought in contact with the pulmonary tissue, and there multiply. Ordinary frank fibrinous pneumonia, then, is an infectious disease, not in the sense of being a general disease, but in the sense of being a parasitic microbic disease. It is an inflammation primarily local, as Grisolle and Andral taught, but it is beside a specific inflammation produced and characterized by a definite microbe. It remains local as long as the parasite does not overpass the limits of the pulmonary parenchyma; it is then simple pneumonia. When it diffuses itself and becomes general, invading the neighboring organs or penetrating the general circulation, whether by way of the lymphatic or blood-vessel, it becomes infectant pneumonia." That the special agent is the ellipsoid coccus Sée is satisfied; to Friedländer's capsule he attaches no importance. To quote another passage:[3] "There is one question, nevertheless, which may be asked, to wit, whether the parasite is the same in all the epidemics of which we have account, or whether with the ordinary parasite there may not be conjoined in certain cases other microphytes? This is an affair for future researches to decide. For the present, and till further enlightened, we may affirm that fibrinous pneumonia, sporadic or epidemic, has always for its essential cause the ellipsoid micrococcus."

The contagiousness of pneumonia also demands further light, though there is increasing probability that it may be contagious.

Here is a short passage which we cannot forbear quoting:[4] "We do not attribute to variation of seasons, the importance which has been assigned to them by Jurgensen and those who have followed him in his way of demonstrating the infectious nature of the disease. If there were no other and better arguments with which to substantiate this theory, it would fall to the ground. Besides, the statistics appealed to as demonstrative, are absolutely puerile, and prove nothing. To one set of statistics, it is always easy to oppose another set."

That pneumonia ever terminates in gangrene Sée doubts seriously, following some of his own countrymen. In these doubts we do not think Sée justified; English, American, and German experience showing clearly that gangrene does occasionally complicate true pneumonia, especially in hard drinkers, though it must be remembered that gangrene is sometimes the primary, solidification of the lungs the secondary, condition.

Chronic induration of the lung may be the outcome of pneumonia, but a termination in caseification, tuberculosis, is characterized as "inadmissible." "Frank fibrinous pneumonia does not end in tuberculization. The facts given as such are mistakes of diagnosis. The inflammation, considered at the outset as fibrinous, was bacillary from the very start. The examination of the sputa does not to-day permit of any doubts in regard to this."[5]

We have thus allowed our author to state some of his more interesting conclusions in his own words. There are other points which we marked for notice, but we have already reached the limits which it is possible for a weekly journal to give to a book notice. There is a good deal of repetition in the book, and more energy as well as space is given to a condemnation of the obsolete treatment, well characterized as "spoliative,"— indiscriminate blood-letting and antimony — than would seem necessary at present. The book is interesting and cannot be read attentively without profit.

The translation is, on the whole, good, but is marred by altogether too many such words as "functionating" "tussigenous," "sectioning," "fermentiferous," "septigenous," and the like. "Debilitation" is found in Worcester, but does not seem to have been used since the time of King Charles. Here and there an error in proof-reading is to be found. F. C. S.

Diseases of the Nose and Throat. By CHARLES E. SAJOUS, M.D., Lecturer on Rhinology and Laryngology, Jefferson Medical School, etc. Illustrated with one hundred chromo-lithographs, from oil paintings by the author, and ninety-three engravings on wood. Philadelphia: F. A. Davis, Attorney, publisher. 1885.

This work is made up of lectures delivered by the author during the spring session of the Jefferson Medical College. We are told in the preface, that it is intended to furnish the general practitioner not only with a guide for the treatment of diseases of the nose and throat, but also to place before him a representation of the normal and diseased parts as they would appear to him were they seen in the living subject.

Ninety-seven of the chromo-lithographs are original. As the author has himself performed the part of artist, we presume he is much better able to judge of color than we are, and that of the plates in this volume, therefore, must pass as accepted. They are certainly well drawn, and the majority of them are very instructive. As a guide to the treatment of the nose and throat, we can cordially recommend this work. The chapters on the instruments used in cleaning and medicating the nasal cavities, pharynx and larynx, and also those on the therapeutics of these regions, set forth the general principles in a useful and practical manner, that will be fully appreciated by general practitioners and students. Specialists will be interested in the volume on account of the originality of the illustrations, and because it is a mirror of the author's own teaching and practice. It is extremely well printed and brought out by the publisher.

[2] Page 56. [3] Page 71. [4] Page 73. [5] Page 111.

Medical and Surgical Journal.

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SEWERAGE AND THE DISPOSAL OF SEWAGE IN POPULOUS PLACES.

A COMMISSION appointed in Massachusetts under a resolve of the Legislature of 1884, has just made its report [1] to the Governor of the Commonwealth on the methods of sewerage and sewage-disposal applicable to various portions of that State, for the relief of certain cities and towns and for the protection of water supplies. Although the investigations were made within rather limited areas and the recommendations have been adapted to the needs of one State, yet the general principles involved are the same everywhere in this country, and the conclusions reached will be of great interest to every community where the proper disposal of filth has become a pressing question.

The commission started with the ground pretty thoroughly prepared for them in the reports of numerous investigations during the last ten years, which have left very little to say, so far as the main conclusions are concerned, as to the methods most practicable under given conditions; and their recommendations agree with previous reports, especially of the State Board of Health. Their ability to spend a large sum of money (nearly the whole of their appropriations of $33,000) and to avail themselves of the services of an accomplished engineer, Mr. Eliot C. Clarke, with a large corps of trained assistants has enabled them to give specific directions, with detailed plans, to meet the requirements of the several cities and towns. From a considerable familiarity with the literature of the subject, we do not hesitate to say that the general report of the commission is the most concise, comprehensive and satisfactory statement of the sewage-question which we have seen; and the appended report of the engineer, beside giving great help to local authorities in settling their problems of drainage, treats the subject in such a broad way as to make his conclusions of practical value throughout the country, while every plan proposed is rendered entirely easy to comprehend by numerous maps admirably drawn and clearly printed. The method adopted, too, is the only correct one, namely, of considering whole river-basins together in drainage schemes, so that the advantage of one town may not be the detriment of another. Mr. Clarke's and the commission's conclusions were submitted to the distinguished engineers, Messrs. Joseph P. Davis, of New York, and Rudolph Hering of Philadelphia, for criticism, revisal and final approval.

The commission's first conclusion is that sewage is of little or no value, but that, although so much diluted as to be valueless, it is not diluted enough to be harmless; that if it can be done effectually and finally it is undoubtedly cheapest and best to cast the foul water entirely away into a body of clean water so large and so free that all trace of the contamination speedily disappears.

Sewage-irrigation they consider admirable if only a number of somewhat intractable conditions can be controlled. Where all things can be made to work together in harmony, it offers a reasonable probability of at least reducing the expense of getting rid of sewage to a minimum. Where an arrangement can be made to operate it in combination with filtration, so that private agriculturists may take the sewage in such quantities and at such times, as they may find it best for their crops, and when not desired can turn it upon filter beds, they think there would be a fair prospect of attaining the largest measure of utilization with the least possible complication and expense. For broad irrigation, pure and simple, the city of Boston, for instance, would need a levelled farm as large as the town of Brookline, upon which two and one-half times the annual rainfall, beside the rain, must be distributed each year, and in wet weather usually to the injury or ruin of most crops — conditions which make the scheme all but impracticable on a large scale.

Intermittent downward filtration is recommended as affording a practicable, economical and efficient means of cleansing sewage, if properly managed, and as having the advantage of being able to filter ten times as much sewage as any crop upon it can profitably absorb. It abandons all idea of profit and simply consists in the application of the maximum quantity of sewage upon the minimum area of land, permitting of only partial utilization, but of more perfect purification. It is susceptible of modification, with a view to partial utilization. It also can be easily and advantageously used in combination with farming enterprise, and is, indeed, an indispensable supplement to broad sewage irrigation.

The climate of Concord and Worcester, Mass., where the sewage of the prison and of the insane asylum is used in irrigation, and at the sewage farm in Pullman, Illinois, is never cold enough for the frost to prevent the flow and absorption of the sewage. The intense heat in summer has not in these places created a nuisance.

Precipitation and depositing processes, chiefly with the aid of lime, involve the disposal of many tons of sludge, a precipitated deposit which cannot be even

[1] Report of a Commission appointed to consider a General System of Drainage, etc. Wright & Potter Printing Company, State Printers, Boston, 1886.

given away, and they do not so completely purify the sewage as to prevent a nuisance if it is cast into clean streams in such quantity as to constitute more than a small per cent. of its volume.

In regard to manufactories, while the commission admit that there is a class of cases where it may be an open question whether it is not for the public interest to abandon a stream or sheet of water to the customary pollution of industry, so long as it does not imperil the public health, they yet say that the public have a right not to be poisoned by the air they breathe any more than by the water they drink, and that there is a foulness which is inadmissible even in a factory stream. Manufacturing refuse, to a certain amount or of a certain kind, may do no harm to a stream, but in many cases the pollution may be so offensive or dangerous as to require a remedy such as the commission think might be brought about by a coöperation of water owners, under the guidance of a board charged with the duty of mitigating the pollution of water-courses.

For the Mystic valley, seventy square miles, with a population of 130,000 to be served, including parts or the whole of Stoneham, Winchester, Woburn, Medford, Belmont, Arlington, Cambridge, Somerville, Melrose, Malden, Everett, Chelsea, Revere and East Boston, an intercepting sewer is recommended to discharge at a point in the southeastern part of Saugus, upon a wide tract of sandy plains for intermittent downward filtration at a cost of $1,520,000 for construction and $20,000 annually for maintenance and renewal. The greater part of the sewage of Cambridge and Somerville is included with the Charles River system, and East Boston has a separate, direct outlet into the harbor.

For the lower or Metropolitan portion of the Charles River valley a main sewer is advised, starting at Waltham, including the Brighton abattoir, uniting with another trunk sewer from Charlestown and the greater portion of Cambridge and Somerville, with their immense hog-slaughtering and rendering establishments, to enter the Boston main-drainage system discharging at Moon Island — a scheme likely to meet with more favor near the present sewer-outlet at Craigie Bridge than in the vicinity of Moon Island, but perhaps admissible. In this way the sewage of forty-six square miles and 180,000 people is provided for at a cost of a little over a million and a half dollars for construction. Milford, Franklin, Wellesley, Marlborough, Westborough and Hopkinton are each recommended to have a separate filtration area for their sewage. The Sudbury and Cochituate basins, including the water-supply of Boston, are provided for by a trunk-sewer for the sewage of the women's prison in Sherborn, South Framingham, Natick, and if necessary, Ashland, with a filtration area for the sewage, in conjunction with which broad irrigation or sewage-farming can be tried, the whole at an estimated cost of $134,843, part of which is to be paid by Boston.

In the lower Neponset basin, Dedham and Hyde Park are temporarily provided for by a plan for a filtration tract between Oakdale and Readville until the time when a main sewer is needed in Dorchester, which they may join and enter the present Boston main drain. In the upper Neponset basin, Sharon, Norwood, Stoughton and Canton, are expected to dispose of their sewage on filtration beds.

The Blackstone River is polluted chiefly by the sewage of Worcester. The remedy suggested is the same as that proposed by the commission appointed by the State Board of Health, Lunacy and Charity, and consists in filtration, with as much sewage-farming as the conditions from time to time admit.

No local sewers are provided for by the plans of the commissioners and none are included in their estimates of cost. The separate system of sewers is recommended for the sewage proper only, on account of the greatly increased cost of providing for street washings and storm-water.

Finally, the commission say, "when we recommend that the prevention of river-pollution be assigned to a board, we do not pretend to prejudge the question whether that Board shall be an existing board or a fresh creation. It seems to us comparatively immaterial, by what instruments our ends are wrought, provided only the work be done economically and speedily and above all, be done well." If an efficient State Board of Health be established this year, as we hope will be the case, the question is worth considering whether it might not perform the duties of a main drainage commission.

FROZEN FRUIT.

FOLLOWING the teachings of the bacteriologists, we have come to look upon cold as a foe to microbic activity, and hence, in a general way, favorable to the interests of public health. But very recently we have been told by the amateur sanitarians of the daily press, of a new peril to life and health, through the action of cold. Frozen oranges, it is said, develop a peculiar virulence through the dissemination throughout their substance of poisonous principles ("acids,") contained in the skin. This theory implies that the skin of an orange naturally contains such a poison, or else that under the action of frost innocent substances take on a poisonous character.

While it is well known that both fruit and rind of the small, bitter Bigarade oranges, or orange berries contain, in the fresh state, a bitter principle called hesperidin, which imparts irritant properties to the essential oil causing in large doses considerable nervous derangement, it is equally well known that the sweet orange peel has a much smaller quantity of hesperidin, enough merely to give it an aromatic and slightly-bitter taste. We have never seen any authority for the belief, that cold has the power to increase the amount of hesperidin, or to form any new chemical compound in the rind of the sweet orange.

This theory of the danger from eating frozen oranges,

was promulgated a fortnight ago or thereabouts, when so large a portion of the Florida crop of oranges was frozen. It is said to have originated with certain planters whose own orchards escaped the frost, but the panic caused by the report was so great, that, far from increasing the price of the unfrozen oranges, as might possibly have been the expectation of its originators, it killed the trade in all Florida oranges, alike. The possibility that fruit might have been frozen, and so have acquired deadly properties, was sufficient to alarm all purchasers.

In this way, a rapidly-growing industry, which would have produced, this year, about a million and a half of boxes of oranges, has been sadly shattered by an idle theory, which purported to be based on scientific grounds, while the proportion of the fruit actually frozen, has probably reached only about twenty-five per cent. of the crop.

Frozen oranges lose their delicacy of flavor, and there is often developed a slightly-bitterish taste, which there is more reason to suppose proceeds from the seeds than from the skins. At least, it is said that Fayal oranges, which have no seeds, and which are quite sour, are made sweeter, and improved in flavor by being frozen. Florida oranges seem to suffer more in flavor from freezing than the fruit from the Mediterranean, and the thicker-skinned and russet varieties of the former are less injured than others.

The great damage resulting from frost, is, of course, the predisposition to decay thus produced. The large amount of fruit seized by the Inspector of Provisions, in Boston last week, and that condemned in New York the week before, was badly decayed, owing to the frozen fruit having been thawed out by the warmth of the steamer, which also hastened decomposition. If the oranges had been thawed slowly, and exposed not too long, they would have been edible and not injurious, though, of course, not a perfect fruit.

It has been the custom of fruit importers in our Northern cities, for years, to sell frozen oranges. It is not uncommon for the outside tiers of boxes in the fruit cargoes of Mediterranean steamers to be touched by frost, on entering port during a cold snap, and occasionally, a sudden fall of the temperature will catch the fruit during its discharge from the vessel, or while it is lying on the wharf. Again, it is liable to be frozen on the westward-bound trains. Such fruit is sold as frozen, and purchasers take their chances on it. They consider it damaged, chiefly because of its liability to decay, but never because the act of freezing has made it poisonous. There is no more reason to fear poisoning from a frozen orange-skin, than from a chilled watermelon, or a glass of iced lemonade.

It is evident, then, that the only proper ground for the condemnation of this fruit is its actual putrefaction, and not the fact of its having been frozen. It seems to us desirable that such matters as the inspection of food, which may involve important and responsible decisions, and in which popular whims may unduly influence on one side or the other the non-expert layman, should be directly under charge of our local Boards of Health. As it is, in Boston, the Board of Health has nothing to do with such seizures, which are in the province of the Inspector of Provisions, who is appointed by, and is responsible directly to the mayor. The owner of seized articles has the privilege by law of appealing from the officer's judgment to that of the Board of Health, whose decision, in that case, is final. There might be less chance of injustice being done to commercial interests by pseudo-science, while the welfare of the public would be equally well guarded, if the original jurisdiction, in such matters, lay with the Board of Health.

RAW MEAT AND MEAT POWDERS.

IN that *a culinary* period of the world's history, which Charles Lamb, in his famous "Dissertation on Roast Pig," calls the "Cho-fang, or Cook's Holiday," before Hoti and Bobo, by the accident of the burning of their hut, in which a litter of pigs was consumed, first learned the savory delights of roast meat, the human race was hardy, and sickness was unknown; it was the golden age, so says the legend. Primitive man may have had his surfeits and his bradypopsias; he was hardly, however, the puny, neuropathic, debilitated individual which the art of cookery, and the refinements of civilization have made of his modern descendant.

Raw meat was introduced into *therapeutics* by Weisse, of St. Petersburg, and has proved an aliment of the utmost restorative utility, not only in affections of the stomach and intestines (its good effects are witnessed, especially, in acute intestinal catarrh), but also, in chronic wasting diseases, generally, among which we may particularize pulmonary phthisis. The facility of digestion of this kind of pabulum, when administered in the form of pulp, and laten dripping with its sanguineous juices, is a matter of common notoriety.

The anæmic and debilitated speedily experience hæmatic recuperation and re-invigoration. This easily assimilable diet has worked wonders in restoration, where iron and cod liver oil have failed. Dyspeptics, whose irritable stomachs would bear nothing else, have tolerated the raw-meat regimen, and life has been prolonged with comfort, where cure was impossible; even infantile therapeutics has profited by it.

It cannot, however, be said that this kind of food is palatable, attractive, or altogether free from the danger of tænia; it must be, moreover, admitted, that that delicious aroma and savor, which, in Lamb's dissertation first awakened desire in the primitive raw-meat devourer for roast pig, are important factors in normal ingestion and digestion.

Hence, it is, that of all the recent additions to therapeutics, meat powders deserve a pre-eminent place. Such preparations, representing the entire substance and juices of animal muscle (and some of them are artificially peptonized), are handy, of great sanitary value, and enhance incalculably the resources of the modern

physician. Nor need the latter, if he be an ardent protectionist, any longer patronize the venders of foreign extracts (even though these have the brand of the illustrious Liebeg); let him wait patiently and the polite representative of the home manufacturer will generously bring him just the article he wants — a delicate little can, containing (well freighted with fragrant osmazome) the proteids of a whole Texas steer.

A PROPOSED BUREAU OF PUBLIC HEALTH AT WASHINGTON.

A BILL has been presented in the National House of Representatives and referred to the Committee on Commerce, for the purpose of creating a Bureau of Public Health in the Department of the Interior.

Provision is made in the bill for the investigation of contagious and epidemic diseases; for the obtaining of information as to the sanitary condition of foreign ports; the collection of statistics of mortality, and pervalence of disease in all portions of the country; and the publication of all the information thus obtained in a weekly bulletin and annual report.

It appears to have been thought necessary to establish an office without quarantine powers and without the patronage which proved so unfortunate a burden to the National Board of Health.

A Bureau so organized would have the very important advantage of a close connection with a great department of government already controlling services of a scientific character and able to protect them against the Treasury Department even.

The old Board of Health seems to be so utterly out of favor that its resurrection or any attempt at the formation of a new Board would be predestined to certain defeat.

MEDICAL NOTES.

— Dr. Crichton Brown, of London, has received the honor of knighthood.

— At the annual meeting of the New Haven Medical Association, held January 4th, officers were elected as follows: President, Dr. W. O. Ayres; first vice-president, Dr. Henry Fleischner; second vice-president, Dr. W. H. Carmalt; secretary and treasurer, Dr. Gustavus Eliot; prudential committee, Dr. M. C. O'Connor and Dr. Henry Pierpont: finance committee, Dr. F. L. Dibble and Dr. C. A. Lindsley.

— Dr. Piffard has retired from his editorial connection with the *Journal of Cutaneous and Venereal Diseases*. The journal will be continued under the sole editorial charge of Dr. P. A. Morrow. We may remind our readers that this is the only publication in the English language devoted to skin and venereal diseases, and during the three years of its existence, it has won for itself a high reputation for scientific excellence as well as practical utility.

— The story comes from Lowell of a disciple of Pasteur, who being troubled with dyspepsia, is inoculating Welsh rarebits before he eats them.

— The proposed engagement of the returned Pasteur-hydrophobia-inoculated Newark children by a Dime Museum, and the report of overtures made by the latter to M. Pasteur and Dr. Billings to join in the show, seems a natural conclusion to the international episode which has monopolized so much attention in recent weeks.

— A sensible suggestion is made by two of Maine's executive councillors who were upon a visiting committee to the insane hospital, that some method should be devised to separate the insane criminals from other inmates of the hospital. They remark that it seems unjust that the innocent and unfortunate insane should be confined with murderers and other criminals, who are sent to the hospital to be watched and have their condition studied. There are now twenty-eight criminals in the hospital.

— Herr Oppler has ascertained by experiments, says the *London Medical Record*, that roasted coffee acts on iodoform as an active deodorizer. As roasted coffee is a powerful disinfectant, it has, in combination with iodoform, an excellent influence in promoting cicatrization. Herr Oppler recommends the following formulæ: Iodoform (pure), 50 grammes; roasted coffee in very fine powder, 25 grammes; a few drops of spirits of ether; or iodoform (pure), 2 grammes; paraffin, 10 grammes; roasted coffee in fine powder, 0.3 gramme.

BOSTON.

— A fatal case of glanders in a hostler who took care of a horse suffering from the disease was reported last week.

— Dr. Charles G. Weld has given $500 toward establishing a library for the nurses at the Boston City Hospital. Dr. Weld was formerly a house officer at the hospital.

— Dr. Pliny Earle, the retiring superintendent of the State Lunatic Hospital, at Northampton, has a unique scrap-book in which he has preserved two hundred different envelopes received during his administration, spelling his name in as many different ways.

— A measure supported by voluminous petitions is before the Committee of the Massachusetts Legislature on Public Health, to restrict the sale of tobacco to minors under the age of fifteen or sixteen years. It is claimed by the petitioners that both boys and girls in the public schools are addicted to the use of cigarettes to an alarming degree.

— About two hundred invitations were sent out, lately, by the Trustees of the Boston City Hospital, to an informal inspection, on the evening of January 29th, of the new Nurses' Home, at the corner of Springfield Street and Harrison Avenue. Much satisfaction was expressed by those who visited the building, at the arrangements and accommodations.

— The Inspector of Provisions recently seized and condemned a considerable portion of the fruit cargo of one of the Savannah steamers.

— The new Hospital, at Cambridge, has been completed, at a cost of from sixty to sixty-five thousand dollars. It will be opened for use very shortly.

— The officers of the Hospital Newspaper Society have made public a letter which says: "The society has sent 294 books, 7,611 magazines and large numbers of illustrated papers to the following named places: Tewksbury, two insane asylums at Worcester, Palmer, Bridgewater, Danvers Insane Asylum, Deer Island, Rainsford Island, the Life-Saving Station, lighthouses, North Bennet street, Reformatory at Concord, Lancaster Industrial School for Girls. The society wishes to thank the persons who have kindly dropped their daily papers into the boxes in the railroad stations. The boxes have never been so full, and we have received during the year 200,000 papers. These boxes are emptied every morning, the contents being distributed among the City Hospital, Deer and Rainsford islands. The Chaplain writes that the 'old men at Rainsford look and talk more cheerfully since they have had the daily papers.' At Christmas the society sent six thousand Christmas cards to different institutions. We want more books, magazines and illustrated papers. We can find a home for every sort of book; what cannot be disposed of here will be welcomed in the West. For this work we require $300, and for so small an outlay it gives a great deal of pleasure. Christmas cards, books and papers may be sent to 113 Revere street; contributions and subscriptions to Mrs. Hartman Kuhn, 64 Beacon street."

NEW YORK.

— The trial of Gen. Alexander Shaler, President of the Board of Health, arraigned on a charge of bribery, in the selection of sites for armories for the city, came off on the 26th and 27th of January, before Judge Barrett, in the Court of Oyer and Terminer; but the jury being unable to agree, a new trial will have to be held at the next term of the Court, which begins February 15th. The jury stood ten for conviction, and two for acquittal.

— At a special meeting of the Dutchess County Medical Society, held at Poughkeepsie, January 27th, charges were preferred against Dr. Samuel Wimpleberg, for violation of the code of ethics, in inserting an advertisement in the *Delaware Times*, calling the attention of the public to the fact that he made eye and ear troubles a specialty, the advertisement being accompanied by printed cuts of an eye and ear. The Comitia Minora made a report, recommending the expulsion of the offending member; but, after considerable discussion, the Society rejected the Comitia's report by a vote of fourteen to five. It was the opinion of the majority that, while Dr. Wimpleberg's act was "derogatory to the dignity of the profession," under the law of the State, a member could be expelled only for "gross ignorance, malpractice, and immorality."

Miscellany.

THE TREATMENT OF CARBUNCLE.

Dr. James Collins writes in the *Philadelphia Medical News:* I have lately treated two cases of carbuncle on the back of the neck by a method which seems to have some advantages. The patient is put under the influence of an anæsthetic, and a linear incision made. I then take a scoop and remove all the necrosed tissue, and wash the parts thoroughly with an antiseptic solution of mercuric chloride. I then put in a drainage-tube, and insert two stitches to bring the two central parts together. Each day the cavity is thoroughly washed out with the antiseptic solution. The patients have done well, and the cicatrix has been less than after any other method I have tried. The success depends upon the removal of the necrosed tissue and the use of the antiseptic solution.

SUDDEN DEATH FROM ŒDEMA OF THE GLOTTIS.

Dr. W. J. Jones, of Baltimore, reports in the Philadelphia *Medical Times* (Oct. 3,) the following case, which serves to show the clinical significance and pathological condition of œdema of the glottis:—

J. B., colored, male, æt. fifty-two years, was admitted into the hospital at Bay View Asylum on the 24th of May last. He gave a history of having been a hard-working laboring-man, and the duties of his vocation often subjected him to considerable exposure. He was addicted to drinking a little too freely of alcohol at times, though not a constant drinker. He denied the history of any venereal disease. A careful physical examination of the patient showed that he was a large, well-built man. He gave no evidence of any disease of his lungs or heart. There was slight œdema of his lower extremities, which was not constant. An examination of his urine showed the presence of albumen and casts, and accordingly a diagnosis of morbus Brightii was made. Infus. digitalis was administered in ℥ss doses thrice daily, and under its influence he seemed to improve until the morning of June 4, when, upon making my rounds of the hospital about ten o'clock, he complained of sore throat, inability to swallow easily, and slight dyspnœa. His lungs were examined, and air was found to enter freely. There was nothing to be seen in his throat to give alarm, though there was some slight swelling and redness about the fauces and the mucous membrane of the pharynx. The epiglottis, likewise, was red and thickened to some extent. Having no evidence at this time to lead me to suspect the fatal termination which so soon followed, I prescribed a simple gargle of potassii chloras, tinct. ferri chlor., glycerin and water, and left him, promising to return again within an hour and make a more thorough examination into his condition. I was about to return to him at the time stated, when a messenger met me with the information that my patient was dead. An autopsy made a few hours after death showed the mucous membrane of the epiglottis and the entire larynx to be very much swollen and œdematous. The œdema reached to such a high degree as almost to occlude the entrance into the larynx. In the pharynx and on the posterior part of the tongue, the follicles were somewhat enlarged; both lungs slightly adherent to the pleura at various places, other-

wise normal; heart somewhat enlarged; left ventricle relaxed and dilated to some extent, valves soft; liver of ordinary size, and pale; spleen normal; kidneys of ordinary size, their capsules slightly adherent in places; the parenchyma hyperæmic.

The case is an important one from the fact of its rapid fatal termination and as to its cause. The suddenness with which the trouble began and the rapidity of its progress must be referred to one of the several causes of œdema of the glottis; and as the patient gave evidence both clinically and pathologically of morbus Brightii, and as œdema of the glottis may occur as the first and only dropsical affection connected with disease of the kidney, as stated by Flint, it is more than probable that the patient's kidney-disease was the prime factor in bringing about the cause which so suddenly terminated his life.

CONCEPTION AFTER CURETTING OF THE UTERUS.[1]

IT has been made an objection to curetting of the uterus, that thereby, conception is rendered difficult, if not impossible (B. Schultze). Düvelius has reported sixty cases where, after curetting, conception did ensue, yet, in the discussion of his paper, no others were familiar with similar cases. Benicke has, therefore, carefully gone over his records, and is able to report ten cases where conception followed on curetting. Of these ten cases, the operation was undertaken once for the cure of endometritis hæmorrhagica, and in nine, for the removal of retained membrane. In three of the cases, the operation was repeated, so that altogether, it was performed thirteen times. In five of the cases, the conception ended prematurely, but this was not a result of the curetting, seeing that the patients had the habit of aborting. In two of those cases, conception ensued four or five weeks, respectively, after curetting; in the others, two and a half, three, four and a half, up to seventeen months after. Benicke's conclusion is that the fear lest curetting should interfere with further conception is absolutely groundless; indeed, that in many cases, it is an excellent method of preparing the endometrium for a new conception.

AN OLD ANATOMICAL PREPARATION.

PROFESSOR ROTH, of Basle, has recently been engaged, we learn from the *Lancet*, in investigating the history of a remarkable relic which the University of Basle possesses. It is a skeleton prepared by the founder of anatomy, Andreas Vesalius, and as it bears the date 1543, it may be justly regarded as the oldest anatomical preparation in existence. Professor Roth has published a pamphlet upon the relations of Vesalius with the old Swiss town, from which it appears, contrary to previous ideas, that the great anatomist only once took up his residence in Basle — namely, in 1543, when he came from Padua for the specific purpose of seeing his great work, "De Humani Corporis Fabrica," through the press of Jo. Oporinus, and that, during that visit, he undertook no official teaching. The dissection of the human body was, at that time, most reluctantly allowed by the authorities, and it was only occasionally that the body of a criminal was sent to the medical schools, such a concession having, previously to 1543, happened only once in Basle, namely, in 1531; and one may imagine the intense longing for such an opportunity on the part of the University students and professors, to occur whilst Vesalius was with them. Their desire was gratified. On the 12th of May in that year, one Jacob Karer was beheaded for a murderous assault upon his wife, and the body was handed over to the University, to be dissected by Vesalius. On the afternoon of that day, and for many days afterwards, the great master taught to students and teachers, a new anatomy; and when the dissection was completed, he prepared the skeleton, and with his wonted generosity, presented it to the University — a gift, in those days, of no trifling value — where, to this day, it remains, in the words of the inscription, "Artis et industriæ suæ specimen." As the possessor of the only known relic of the greatest of human anatomists, the University may well be proud of its treasure.

[1] Ztschrft. f. Geb. und Gyn., XI., 2, American Journal of Obstetrics, January, 1886.

THE ACTION OF THE MIDDLESEX NORTH DISTRICT MEDICAL SOCIETY ON THE DEATH OF DR. JOHN O. GREEN.

AT a recent meeting of the Middlesex North District Medical Society, the President, Dr. Wm. Bass, in the chair, Dr. F. Nickerson, for the committee appointed to take action on the death of Dr. John O. Green, reported the following:

Your committee recommend that the following comments on the life of Dr. Green be accepted as the sense of this society:

Under the shadow of sorrow which has fallen upon us in the death of an honored associate, Dr. John Orne Green, we pay the worthiest tribute to his memory and do the best service living by setting forth some, at least, of the salutary lessons bequeathed by his exemplary life.

The career of Dr. Green, covering a period of eighty-six years and including a residence and medical practice of sixty-three years in this community, is so interwoven with the events in which he bore a part as to be almost as much a subject of history as of biography.

His birthplace was Malden, Mass., his father was the Rev. Aaron Green, and he was named after his maternal uncle, John Orne, of Lynnfield, Mass. He received his early education in the schools of his native town, and his preparatory training for college at the academy of Dr. Homans in Medford, Mass. He entered Harvard University, as a freshman, at the age of fourteen years, and graduated with honors in the class of 1817, which numbered sixty-seven men, among them George Bancroft, Caleb Cushing, Rev. Dr. Tyng and President Alva Woods. During his college course he paid particular attention to theological studies, with the design of entering the ministry, but afterwards abandoned this idea. After his graduation he acted for one year as principal of a Latin school at Castine, Maine. He then entered the office of Dr. Edward Reynolds, of Boston, under whom and with the late Dr. Winslow Lewis as a fellow student, he availed himself of the excellent clinical advantages offered at the almshouse on Leverett street. He attended lectures at the Harvard Medical school, from which institution he received the degree of M.D., in 1822.

Coming to Lowell, an entire stranger, when the place contained only 200 inhabitants, and when the stakes which marked out the site of the future city had just been planted, he hewed his way, by his integrity, intelligence and persevering industry, into the high position which he always held as a gentleman, a citizen and a physician.

The name of Green is associated with that of Colburn and of Edson in the early struggle for educational reform, which, maintained with courage and persistency, against a fierce opposition, laid the foundation of the present public school system of this city. The heroic labors of these men

are commemorated in the school structures which bear their names. In 1870, Dr. Green delivered the address at the dedication of the new Green school which took the place of the old building on Middle street.

Dr. Green was also prominently connected with the introduction into Lowell of lyceum courses of lectures, to which he himself contributed one or more essays.

He had no ambition for public office and despised the puerilities and trickeries of politics. He was a member of the school board for fifteen years and for nine years was its chairman and wrote its reports. He served also as an alderman, and as health commissioner, he, for seven years, prepared the municipal bills of mortality which preceded the present system of registration. He was formerly a councillor of the Massachusetts Medical society, and in 1846 delivered the annual address before that body on "The Factory System in its Hygienic Relations."

Born and reared to manhood on the spot where the Revolutionary patriot, the Rev. Peter Thacher, had lived and viewed the battle of Bunker Hill, he early caught the historic spirit which impressed itself on his literary pursuits and professional methods and found public expression in papers on historical subjects.

While his energies were habitually taxed by the motley duties which appertain to that medical factotum, the general practitioner, his mind had a more special bent for pathology. Methodical in all his ways, he kept careful and instructive records of the autopsies in which he had been engaged. In the *American Journal of Medical Sciences* for July, 1834, he reported two cases of fracture of the liver, which were republished in Germany. In the *Boston Medical and Surgical Journal*, for December, 1837, he wrote an account of an epidemic of small-pox in Lowell. He also rendered valuable aid, by his investigations, to Dr. Elisha Bartlett, in his work on fevers, the second edition of which was dedicated to him.

The earnestness with which he consecrated himself to the cause of Christianity received its first impetus from the home of his childhood, the country parsonage; to the sanctifying and refining influences of the parental instruction imparted and the society enjoyed there, he ever recurred with the most profound sentiments of reverence and affection. The spirit which pervaded his religious views, inspired his conduct and made it the very soul of professional honor, is best illustrated by his own words, which are to be found in his address on the life and character of Dr. Dalton: "Accustomed to the most constant expression of their most intimate feelings in words, there are those who lose sight of the fact that there is a religion no less pure than their own which shrinks from such constant assertion of itself, and which is satisfied to do justly, love mercy, and walk humbly with God."

The last years of Dr. Green's life were full of activity. To this fact his efficiency as a member of the staff of St. John's hospital and president of the Lowell Old Resident's Association, bears ample testimony. Performing his professional labors almost uninterruptedly till within a short time before his death, he at last yielded to the infirmities of advanced age, and after an illness of a few months, on the 23d of December, 1885, he serenely closed his eyes on earthly scenes.

Thus ended a life whose service was eminently that of God and humanity, and whose watchwords were truth and faithfulness to duty.

The report of the committee was unanimously adopted by a rising vote.

REPORTED MORTALITY FOR THE WEEK ENDING JANUARY 23, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Scarlet Fever.	Typhoid Fever.	Diphtheria and Croup.
New York	1,340,114	716	288	16.12	16.51	1.69	.39	8.32
Philadelphia	927,995	325	121	21.70	18.91	2.48	4.03	12.17
Brooklyn	644,526	—	—	—	—	—	—	—
Chicago	632,100	—	—	—	—	—	—	—
Boston	390,406	191	46	9.54	15.37	1.16	.53	4.24
Baltimore	408,520	145	56	12.42	14.18	—	.69	6.90
St. Louis	400,000	—	—	—	—	—	—	—
Cincinnati	272,400	—	—	—	—	—	—	—
New Orleans	234,000	156	35	10.24	14.72	—	1.28	1.28
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	—	—	—	—	—	—	—
Pittsburgh	180,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	41	11	19.52	29.28	4.88	2.44	—
New Haven	62,882	—	—	—	—	—	—	—
Nashville	54,400	23	9	8.70	8.70	—	4.35	—
Charleston	52,286	23	—	—	—	—	—	—
Worcester	68,383	24	13	24.96	—	—	—	20.80
Lowell	64,051	17	4	23.52	11.76	—	17.64	—
Cambridge	59,660	28	9	3.57	17.85	3.57	—	—
Fall River	56,863	23	10	30.45	4.35	4.35	—	13.05
Lynn	45,861	12	4	—	8.33	—	—	—
Lawrence	38,825	—	—	—	—	—	—	—
Springfield	37,577	8	2	25.00	37.50	12.50	—	12.50
New Bedford	33,393	12	2	8.33	8.33	—	—	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	15	4	13.33	6.66	—	—	6.66
Holyoke	27,894	6	2	33.33	33.33	—	—	16.66
Chelsea	25,709	5	2	—	20.00	—	—	—
Taunton	23,674	8	1	—	25.00	—	—	—
Haverhill	21,795	10	4	10.00	30.00	—	—	10.00
Gloucester	21,713	7	0	14.28	28.56	—	14.28	—
Brockton	20,783	7	1	14.28	28.56	14.28	—	—
Newton	19,759	1	0	—	—	—	—	—
Malden	16,407	8	3	12.50	12.50	—	—	—
Fitchburg	15,375	—	—	—	—	—	—	—
Waltham	14,609	8	2	—	—	—	—	—
Newburyport	13,716	6	0	—	66.66	—	—	—
Northampton	12,896	4	1	—	—	—	—	—
91 Massachusetts Towns	—	60	9	8.30	—	1.66	3.32	3.32

Deaths reported 1,865: under five years of age 639; principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 292, consumption 319, lung diseases 280, diphtheria and croup 139, scarlet fever 30, typhoid fever 28, malarial fever 23, diarrhœal diseases 27, whooping-cough 22, cerebro-spinal meningitis 11, measles six, erysipelas three, puerperal fever two, small-pox one. From diarrhœal diseases, New Orleans seven, New York six, Philadelphia four, Boston and Providence three each, Lowell, Fall River, New Bedford and Salem one each. From malarial fever, New York 14, New Orleans five, Baltimore four. From whooping-cough, New York 16, Philadelphia and Baltimore two each, Providence and Fall River one each. From cerebro-spinal meningitis, New York five, Boston, Worcester, Fall River, Holyoke, Taunton and Malden one each. From measles, New York and Philadelphia two each, Baltimore and Providence one each. From erysipelas, Boston two, Baltimore one. From puerperal fever, Boston and Nashville one each. From small-pox New York one.

In 111 cities and towns of Massachusetts, with a population of 1,311,869 (population of the State 1,941,465), the total death-rate for the week was 18.23 against 17.16 and 16.98 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,909,817, for the week ending January 9th the death-rate was 22.5. Deaths reported 3,927: infants under one year of age 898; whooping-cough 174, measles 113, fever 42, diarrhœa 41, scarlet fever 38, diphtheria 37, small-pox (Liverpool, two, Nottingham one), three.

The death-rates ranged from 18.5 in Sheffield to 30.8 in Bolton; Birkenhead 24.0; Birmingham 21.0; Bradford 20.2; Huddersfield 28.3; Hull 19.6; Leeds 19.2; Liverpool 24.2; London 22.4; Manchester 28.2; Nottingham 27.8.

In Edinburgh 16.2; Glasgow 28.8; Dublin 28.8.

The meteorological record for week ending January 23, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps: —

Week ending Saturday, Jan. 23, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,...17	29.794	32.3	40.6	27.5	92.0	63.0	66.0	73.7	W.	N.W.	W.	7	30	11	T.	C.	C.	—	—
Monday,...18	30.157	25.7	31.1	22.0	55.0	37.0	82.0	48.0	W.	N.W.	N.	12	17	10	C.	F.	O.	—	—
Tuesday,..19	30.015	29.0	40.2	19.0	86.0	92.0	84.0	87.3	N.W.	E.	W.	2	12	6	N.	R.	C.	—	—
Wednes.,..20	30.367	29.3	34.7	25.3	70.0	38.0	55.0	54.3	W.	N.W.	N.E.	17	9	3	C.	C.	C.	—	—
Thursday, 21	30.112	33.1	40.1	24.4	64.0	78.0	94.0	78.7	S.E.	S.E.	N.	8	19	14	O.	O.	R.	—	—
Friday, ...22	29.893	34.4	36.0	31.3	95.0	91.0	86.0	90.7	N.E.	N.E.	W.	17	16	3	R.	R.	O.	—	—
Saturday, .23	30.222	20.2	37.8	7.2	60.0	57.0	52.0	56.3	W.	N.W.	N.W.	26	17	14	C.	F.	C.	37.0	1.28
Mean, the Week.	30.080	29.1	37.2	22.4				69.9											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JANUARY 23, 1886, TO JANUARY 29, 1886.

SUMMERS, JOHN E., colonel and surgeon, U. S. Army. Retired from active service, by operation of law, January 24, 1886. S. O. 20, A. G. O., January 25, 1886.

WATERS, WM. E., major and surgeon. Granted leave of absence for twelve months and fifteen days. S. O. 5, Division of the Atlantic, January 23, 1886.

BANISTER, J. M., assistant surgeon. Ordered for temporary duty at Fort Warren, Mass. S. O. 16, Department East, January 25, 1885.

SOCIETY NOTICES.

MASSACHUSETTS MEDICAL SOCIETY, SUFFOLK DISTRICT. — The Section for Clinical Medicine, Pathology and Hygiene will meet at 19 Boylston Place, on Wednesday, February 10th, at 7.45 o'clock. Papers: Dr. W. B. Mackie, "A Case of Typhoid Fever complicated by Intestinal Hæmorrhage, Embolism of Femoral Artery and Gangrene of the Foot." Dr. C. E. Wing, of Jamaica Plain, "A Summer Ramble through North Carolina."

F. I. KNIGHT, M.D., *Chairman.*

ALBERT N. BLODGETT, *Secretary*, 138 Boylston St.

ERRATA.

In Dr. Stedman's report on Progress, issue of the 28th of January, page 81, second column, line 16, from the bottom, for "their" read "the"; page 81, second column, the clause beginning on line 10 from bottom should read: "No other form of insanity is so prolific of accidents." Page 83, line 26, for "and" read "was"; page 83, line 40, for "intestinal" read "interstitial."

DEATH.

Samuel Hutchins, M.D., of Danielsonville, Conn., died on January 16th, of augina pectoris at the age of sixty-seven years. He leaves a widow and four daughters.

BOOKS AND PAMPHLETS RECEIVED.

Fractures and Dislocations. By T. Pickering Pick, F.R.C.S., Surgeon to St. George's Hospital, etc. Revised, with 93 Engravings. Philadelphia: Lea Brothers & Co. 1886.

Improved Apparatus and Improved Methods for applying Static Electricity (Franklinism). Abstract of a Lecture delivered at the West End Hospital by Herbert Tibbits, M.D., F.R.C.P. (Edinborough). London: J. & A. Churchill. 1886.

An Experimental and Clinical Study of Air Embolism. By N. Senn, M.D., of Milwaukee, Wis. (Extracted from the Transactions of the Americal Surgical Association, Vol. III, 1885.) Philadelphia. 1885.

Annual Report of the Supervising Surgeon-General of the Marine Hospital Service of the United States for the Fiscal Year 1885. Washington. 1885.

Diagnosis of Diseases of the Brain and of the Spinal Cord. By W. R. Gowers, M.D., F.R.C.P. New York: Wm. Wood & Co. 1885.

Cutaneous and Venereal Memoranda. By Henry G. Piffard, A.M., M.D., Professor of Dermatology, University of the City of New York, and George Henry Fox, A.M., M.D., Surgeon, New York Dispensary, etc. Second Edition. New York: Wm. Wood & Co. 1881.

Lectures on Syphilis, Delivered at the Chicago College of Physicians and Surgeons. By G. Frank Lydston, M.D., Late Resident Surgeon at Charity Hospital, etc. Reported by Wm. A. Walker, A.M., M.D. Chicago: A. M. Wood & Co. 1885.

Clinical Notes on Uterine Surgery, with Special Reference to the Management of the Sterile Condition. By J. Marion Sims, A.B., M.D., Late Surgeon to the Woman's Hospital, New York.

Climatology and Mineral Waters of the United States. By A. N. Bell, A.M., M.D., Editor of the Sanitarian, etc. New York: Wm. Wood & Co. Wood's Library. 1885.

Hydronaphthol: a New Antiseptic. By George R. Fowler, M.D., Surgeon to St. Mary's General Hospital, Brooklyn. (Reprint from the New York Medical Journal.)

Essentials of the Physical Diagnosis of Thoracic Diseases. E. Darwin Hudson, Jr., A.M., M.D., Professor of General Medicine and Diseases of the Chest in the New York Polyclinic. New York. 1885.

Diseases of the Lungs of a Specific non-Tuberculous Nature. Acute Bronchitis, Infectious Pneumonia, Gangrene, Syphilis, Cancer and Hydatid of the Lungs. By Professor Germain Sée, Physician to the Hôtel Dieu, Paris. Translated by E. P. Hurd, M.D., with Appendix by Geo. M. Sternberg, M.D. Prof. Dujardin Beaumetz. New York: Wm. Wood & Co. 1885.

Transactions of the Medical Society of the State of Pennsylvania at its Thirty-Sixth Annual Session. Held at Scranton, Pa., May 27-29, 1885. Vol. xvii.

Original Articles.

THE ADVISABILITY OF INDUCING ABORTION IN CASES OF SO-CALLED UNCONTROLLABLE VOMITING OF PREGNANCY.[1]

BY O. W. DOE, M.D.

THE rarity of this disease naturally prevents one from deducing principles on which to base his method of practice from his own experience. This is especially so with me, as I have seen only one indisputable case during the past twelve years.

Consequently in this paper my deductions are drawn from a compilation of all the undoubted cases that could be found referred to in the Index Medicus and various works on obstetrics.

In looking up the various references I want to publicly acknowledge my great indebtedness to Dr. S. H. Ayer, for the very valuable assistance he has given me.

At a recent meeting of the Boston Obstetrical Society I reported a case of so-called uncontrollable vomiting of pregnancy, which was relieved by changing the malposition of the uterus after almost every remedial agent had been unsuccessfully tried and the patient's condition had become most alarming.

In consultation, the question of inducing abortion arose and it was certainly a most difficult and anxious one to decide. The patient had taken no nourishment by the mouth for nearly five weeks, as even the mention of food would excite vomiting. During this time she had been fed by nutritive enemata. Nausea was constant and intense, and vomiting of a thin yellowish fluid, sometimes half a cupful at a time, occurred every two or three hours. Any sudden noise, or sudden appearance of one by the bedside would excite vomiting.

Notwithstanding the fact that the enemata had been well born, the patient had become greatly emaciated and too weak to move herself in bed.

There was excessive ptyalism, coming on more frequently at night; at other times thirst was intense, tongue parched and dry, breath very offensive, and, along the course of the œsophagus and at the epigastrium, was marked tenderness. Pulse 116, temperature 97°.

The cervix was firm and unyielding; the os only slightly patulous. The uterus was markedly anteverted, the fundus resting against the rami of the pubes, and, on examination, could be raised up out of the cavity of the pelvis, but fell back again directly upon the removal of the finger. She was within three or four days, as near as could be determined, of being three months advanced. Taking into consideration the unyielding and firm condition of the cervix, I reasoned that were abortion to be induced she was far too weak to bear the shock necessarily attending it, and even if she happily withstood this there was the probability of hæmorrhage, which, in one so weak, would at its very outset prove fatal. Furthermore, should she surmount even these two dangers, there still remained a third, namely, septicæmia, which one would almost expect to follow in a person so reduced when abortion was artificially and forcibly produced. In favor of delay and trusting to other means was the fact that in her preceding pregnancy the nausea and vomiting though much less severe, yielded suddenly and completely at the beginning of the fourth month after the attending physician had, on vaginal examination, by chance raised the uterus high up out of the cavity of the pelvis. Furthermore, there was no continued irritability of the bowels, so that, as a rule, the enemata were well retained. Had at this time from any cause rectal alimentation been impracticable, and the elevation of the uterus and retention by vaginal support proved inefficient, even in the face of every threatening danger, I should have advised rapid abortion under ether and full hypodermic stimulation. Should the result have proved fatal, I should have considered that the error in treatment ought to be referred to the delay, rather than to the method employed.

The exciting cause of the vomiting in this case seemed to be wholly the displacement of the uterus and consequent pressure upon the pelvic parts. As soon as the pressure was permanently removed, by raising the body of the uterus out of the pelvic cavity, the vomiting and nausea instantly ceased. A peculiar feature illustrating the principle of cause and effect here was that as soon as the vaginal tampons were at all displaced, so as to allow the body to prolapse or antevert, the nausea and vomiting would directly return. Looking back upon this case and noting each stage of the disease as it unfolded itself, and remembering how inefficient all therapeutic agents proved, I should be inclined to follow in another case a course of treatment like the following: rectal alimentation combined with chloral and bromide as soon as the vomiting became pronounced; careful examination to detect any malposition of the uterus and as soon as observed to remedy it by the use of a proper pessary and with the tamponing of the vagina with the object of raising the body as far out of the pelvis as possible. Should no relief follow soon after the beginning of the fourth month, or if even earlier no relief followed the correction of the displacement, and the patient's strength was rapidly diminishing, or if rectal irritation became continuous, I should unhesitatingly induce abortion. Or, more concisely, impracticable rectal alimentation combined with continuous vomiting, wholly unrelieved by correcting any existing uterine displacement, attended with rapid pulse, offensive breath, subnormal temperature and marked increasing prostration would hereafter decide me to induce abortion at whatever the period of pregnancy might be.

Under the conditions I have just expressed there is no doubt in my mind as to the advisability of inducing abortion in cases of so-called uncontrollable vomiting of pregnancy, still it will be but fair to present to you the various differences of opinion upon the subject. Every physician has probably either seen or read of cases of death from this terrible complication of pregnancy, and yet many eminent practitioners say that abortion without exception is entirely unnecessary. Dr. Mortimer H. Jordan, of Birmingham, Ala., says:[2] "Among other eminent men I will mention Cazeaux, Burns, Dubois, Desermaux, Carl Braun, of Vienna, and Henry F. Campbell, of Augusta, Ga., who state that artificial production of abortion is never justifiable for gravid nausea." Dr. Campbell says: "That under the careful and systematic application of rectal alimentation artificial abortion for the relief of gravid nausea can be banished from practice even as a last resort." On the other hand, I quote from Dr. Davenport as follows:[3] "Denman, Merriman, Burns,

[1] Read before the Obstetrical Section of the Suffolk District Medical Society, December 16, 1885.

[2] Trans. of the Med. Assoc. of the State of Alabama, 1883.

[3] Trans. Vermont Med. Soc., 1878, St. Albans, 1879, p. 39, 40.

Davis, Lee, Ashwell, Blundell, Churchill and Condie all advocate the induction of premature labor, without reference to the period of gestation; if the symptoms and condition of the patient demand it, then it is to be done." J. Marion Sims writes as follows:[4] "During my residence in Paris some years ago, I saw two deaths from pregnancy-vomiting, and I saw two cases that were snatched from the jaws of death by the induction of abortion. Professor Trousseau and Dr. Johnston of Paris were consulted in these cases and both agreed that prompt abortion was the only means of saving life." Dr. Murphy sums up four cases as follows:[5] "Thus in four cases of excessive vomiting followed by exhaustion, three were lost through hesitation and delay; and one was saved by promptitude in inducing miscarriage."

Lusk says:[6] "When the vomiting is literally uncontrollable, a rare event where the physician commands the full coöperation of his patient, and death from starvation threatens, there remains as an ultimate resource the artificial induction of abortion or premature labor.

Dr. Scott says:[7] "It is criminal to allow a patient to go to the last extremity before an effort is made to produce an effect which we know is certain to relieve her and preserve a life which is the 'right of woman.'" On the other hand, however, cases are recorded where the patient sank steadily and in which life had been despaired of by the physician in charge, and in which abortion had been refused by the patient, and yet upon the exhibition of some new remedy, a change for the better has appeared and a steady gain made from that time on. P. Dubois[8] speaks of a case which illustrates this point, it being one which had been abandoned by himself and colleague and which afterward promptly recovered on the exhibition of a purgative.

Dr. Engelmann says:[9] "Of course abortion is to be induced as a last remedy, but it is always to be used in time, and as soon as it is found that all others fail." The principal fact is, practitioners wait too long. Dr. Coles says:[10] "I have never had a case in my own practice where the induction of labor was necessary, but I have seen two cases where this had to be resorted to. In these cases the women were *in extremis;* one of them died notwithstanding the abortion. She had gone too far. We had waited too long for this spontaneous change."

Leishman says:[11] "The conclusion at which Cazeaux and others have arrived is that under no circumstances are we justified in inducing premature labor for the relief of vomiting of pregnancy." Cazeaux reports seven cases of induced abortion with six deaths. According to his estimate, one in seven is the average of escapes from death after the operation (induced abortion). He thinks the most desperate cases, as he cites several to show, have a better chance on the expectant plan, with such nutriments as can be retained, than in the resort to induced abortion.

Out of 118 cases collected by Gueniot there were 72 recoveries and 46 deaths, represented as follows:

	Recoveries.	Deaths.
Without abortion in very severe cases after diversified treatment	31	28
Following spontaneous abortion also in very severe cases	20	7
After abortion or induced labor in cases more or less desperate	21	11
Total,	72	46

Dr. Alfred McClintock in a paper before the Dublin Obstetrical Society read in 1873, reported 36 cases in which abortion was induced with 27 recoveries and nine deaths.

In selecting the following 48 cases, which I am about to report, there was considerable difficulty experienced in deciding whether a case should be truly called "uncontrollable" in the popular sense of the word, or simply obstinate. It is evident, however, that all cases in which death occurred without artificial abortion were certainly uncontrollable, and that by adding to the list of recoveries, cases which were more or less doubtful, the percentage of deaths became correspondingly less.

All of the cases are very briefly reported, some from necessity, others from choice, the idea being not to bring forward a full and complete report of each case, but simply to place before you such points as have a direct bearing on the subject of this paper. I think, however, the principal point to be brought out is clearly shown; namely, that after the emptying of the uterus, whether artificially or otherwise, the vomiting, with very few exceptions, soon ceased, and that in nearly all cases recovery took place, a fatal termination occurring in those in which interference had been too long deferred.

I shall first present to you twenty-eight cases of uncontrollable vomiting, in which artificial abortion was not induced, after which I shall read twenty cases which were terminated by artificial abortion.

TWENTY-EIGHT CASES OF UNCONTROLLABLE VOMITING OF PREGNANCY, IN WHICH ARTIFICIAL ABORTION WAS NOT INDUCED.

No.	Reported by.	Age.	Multip. or Primip.	Vomiting. Began.	Vomiting. Ended.	Treatment.	Termination.	Condition and Remarks.	Reference.
1	F. Minot, M.D. Boston, Mass.	Young.	M_2	8th week.	20th wk.	Nutritive enemata.	Recov.	Vomiting was soon accompanied by excessive salivation. "Pulse gradually rose to upwards of 130 in the minute." There was "much emaciation, prostration, loss of sleep, and depression of spirits." "Any excitement, even an accidental loud noise in the room would cause urgent retching and rejection of anything that happened to be in the stomach." Quickening May 22; permanent relief June 1.	Boston Medical and Surgical Journal 1880, cii. p. 302.

[4] Arch. Med., N. Y., 1880, iii, p. 269, 276.
[5] Murphy's Midwifery, 2d Edition, p. 94.
[6] Science and Art of Midwifery, p. 120.
[7] St. Louis Courier of Medicine, 1884, 12, p, 61-67.
[8] Med. Rec., N. Y., 1885, xxvii, p. 250.
[9] St. Louis Courier of Medicine, 1884, 12, p. 61, 67.
[10] St. Louis Courier of Medicine, 1884, 11.
[11] Gynæcological Trans., Vol. 3, 1878, p. 271.

TWENTY-EIGHT CASES OF UNCONTROLLABLE VOMITING, IN WHICH ARTIFICIAL ABORTION WAS NOT INDUCED. *(Continued.)*

No.	Reported by.	Age.	Multip. or Primip.	Vomiting. Began.	Vomiting. Ended.	Treatment.	Termination.	Condition and Remarks.	Reference.
2	E. Copeman, M.D.	25	P	6th mo.	?	Internal remedies failed. Rectal alimentation for 3 weeks. Cervix dilated (Copeman's method).	Recov.	"Vomiting and retching became almost incessant." Vaginal examination found posterior lip of cervix hard and unyielding. "Effect (Copeman's method) was instantaneous, the stomach retaining the first thing administered."	British M. J., Lond., 1879, 1, 736.
3	J. Farrant Fry, M. D., Swansea.	?	M_6	6th week.	8th week.	Internal treatment failed. Cervix dilated (Copeman's method).	Recov.	The effect (Copeman's method) was almost immediate; food was retained and patient quickly regained strength. Went to term.	British M. J., Lond., 1880, 1, p. 399.
4	J. F. Baldwin, M.D., Columbus, Ohio.	29	P	6th week.	10th wk.	Internal remedies with failure. Cervix dilated (Copeman's method).	Recov.	"Nitrate of silver to erosion, gave no relief." After dilatation of cervix "all vomiting ceased as by magic."	Ohio Medical Record, Columbus, 1879, 1880, iv., p. 198-200.
5	F. W. Lester, M.D., Key West, Fla.	30	M	Almost from time of conception.	14th wk.	Internal treatment failed. Ether to pneumo-gastric nerves under sterno mastoids, alternately.	Recov.	For four weeks previous to ether treatment, patient vomited every few moments. Ether was applied every two hours the first day for ten minutes at a time. In three days vomiting ceased entirely.	Med. Record, N. Y., 1880, xviii. 474.
6	Jesse Crounse, M. D., Knowersville.	34	M_4	Soon after conception.	After 6th month.	Internal remedies failed. Moral treatment: slight irritation of os, pretending attempted abortion which patient desired. "Each remedy was in turn given a trial and still no improvement, but on the contrary I saw her wasting and becoming more feeble every day."	Recov.	With first child suffered from nausea and vomiting for seven and one-half months. In second pregnancy, labor was induced at three and one-half months, successfully. In third, labor was again induced at third month without any trouble. In this case, patient begged physician to induce labor, and finally he consented. He, however, merely irritated os with a probe, she thinking an abortion had been performed. Vomiting ceased and on return of same was soon relieved by same method. No vomiting after sixth month. Patient was delivered at term.	Med. Annals, Albany, 1882, iii. p. 226-228.
7	T. C. Wallace, M.D., Cambridge, N.Y.	?	P	8th week.	13th wk.	Everything internally. Copeman's method. Nitrate of silver (solid) to cervix. Relieved by pop-corn.	Recov.	"Confined to bed for more than four weeks, pale, languid, pulse 120 and weak, and so prostrated as to be unable to raise head from pillow. For the past sixteen days her stomach has absolutely refused to retain anything; everything, food, medicine, even a swallow of water being instantly rejected." Rectal alimentation only for past six days. Immediate relief after pop-corn.	Med. and Sur. Rep., Phila., 1883, xlviii. p. 172.
8	John N. Upshur, M.D.	24	P	7th week.	10th wk.	Internal treatment failed. Relieved by Hodge's double lever pessary (closed).	Recov.	Retroversion discovered on 10th week. Relieved by pessary. Previous to insertion of pessary, patient's condition became steadily worse, she "becoming more prostrated and her disgust of food increasing daily."	Am. J. Obst., N. Y., 1884, xvii. p. 915, 917.
9	J. W. Ayle, M.D.	?	M	2d month.	2d month, 2d week.	Relieved by Horsford's Acid Phosphate and chicken-water, other internal remedies having failed.	Recov.	"Nausea and vomiting ceased." "Acted like a charm."	Med. Sur. Rep., Phila., 1884, p. 757.
10	Dr. Prewitt.	Young.	?	About 2d month.	?	Morphine subcutaneously.	Recov.	"Not a particle of food for a week" previous to morphine treatment. Patient was kept under the influence of morphine all the time. "Takes none now, though she did get somewhat of the habit."	St. Bartholomew's Hosp. Rep., Lond., 1883, p. 257.
11	C. E. Stedman, M.D., Boston, Mass.	Young.	M_1	4th week.	14th wk.	Everything internally. Etherial tinct. of iodine to cervix. Rectal alimentation.	Recov.	First labor normal. "When I visited her remedies prescribed had lost effect, and she was in an alarming condition; every particle of food had been rejected for forty-eight hours. Patient had headache, fleeting delirium, pinched countenance, dry brown tongue, constant nausea, little sleep, epigastric and abdominal pain, vomiting up everything, and rapid pulse. The os was patulous and very red. Cervix was flexed and very soft. External Tr. Iodi applied to cervix liberally. Vomiting ceased in twenty-four hours. Patient vomited only twice after that time."	Boston Med. and Sur. J., 1883, 109, p. 529.

TWENTY-EIGHT CASES OF UNCONTROLLABLE VOMITING, IN WHICH ARTIFICIAL ABORTION WAS NOT INDUCED. (*Continued.*)

No.	Reported by.	Age.	Multip. or Primip.	Vomiting, Began.	Vomiting, Ended.	Treatment.	Termination.	Condition and Remarks.	Reference.
12	Henry F. Campbell, M.D., Augusta, Ga.	29	M_2	?	About 16th wk.	Everything internally. Nitrate of silver (solid) to cervix. Rectal alimentation alone for 52 days	Recov.	Patient aborted at three and one-half months. Fœtus dead. Nausea did not cease for over two weeks, during which time she was nourished solely by enemata and for a much longer time this "had to be continued as supplementary to her very gradually returning power to take and retain food by gastric ingestion."	Gynæcological Transactions, 1878, iii, 268-298.
13	Henry K. Leake, M.D.	?	?	9th week.	12th wk.	Everything internally. Cervix thoroughly dilated.	Recov.	Labor set in (probably due to dilatation of cervix) about the 12th week. "Patient recovered after a slow and painful convalescence from a pelvic cellulitis, which supervened on the expulsion of the fœtus. Immediate relief to vomiting after abortion."	Med. Rec., N.Y., 1885, xxvii, p. 256.
14	W. J. Collins, M.D.	38	M_7	$4\frac{1}{2}$ mos.	$6\frac{1}{2}$ mos.	Internal remedies only.	Recov.	Patient aborted at six and one-half months. Labors natural before.	St. Bartholomew's Hosp. Rep., Lond., 1883, p. 125.
15	Dr. Murphy, London.	?	P	Almost from time of conception.	About 3d month.	Internal remedies only.	Death.	"About the third month it (the vomiting) became so severe as to cause great emaciation and exhaustion." Several remedies were used to no purpose, and at the eleventh hour the question was asked:—"What further could be done?" She was fast sinking; the time was past to attempt the induction of permature labor, and she died in about two days afterwards."	Murphy's Midwifery, 2d ed., p. 94.
16	Dr. Haighton.	?	M_4	About 6th month began to grow worse.	Probably about $7\frac{1}{2}$ months.	Internal remedies only.	Death.	"She had most obstinate vomiting in two previous pregnancies." Sickness would sometimes intermit. Slight improvement caused the doctor to defer artificial abortion. The next day she was taken exceedingly ill and died in two days.	Obst. Med., vol. ii, p. 871.
17	Dr. Johnson.	30	P	?	4th mo.	Internal remedies only.	Death.	"Pregnancy was not detected, but the disease was attributed to the pylorus." "The sickness (vomiting) and emaciation were the only symptoms present." "She died, and after death no morbid appearances were observable in any part of the body. The uterus contained a fœtus about four months old. This patient was literally starved to death."	Lancet, Lond., Mar. 3, 1838, p. 825.
18	J. Marion Sims, M.D., N. Y.	Young.	P	2d week.	?	Internal remedies only.	Death.	Artificial abortion advised and refused. Died of heart clot started up "by getting out of bed to answer a call of nature."	Arch. Medical N. Y., 1880, iii. 269-276.
19	Geo. Davenport, M.D., E. Randolph, Vt.	25	P	?	?	Internally only.	Death.	Married about one year. Attacked with nausea and vomiting and died in five weeks in spite of all treatment. Pregnancy was not recognized, the diagnosis being a low form of bilious vomiting, great emaciation. Pregnancy confirmed by autopsy.	Tr. Ver. M. Soc. 1878, St. Albans, 1879, p. 39, 40.
20	Geo. Davenport, M.D., E. Randolph, Vt.	Young.	P?	5th week.	12th wk.	?	Death.	"She died of exhaustion."	(Same as above)
21	Geo. Davenport, M.D., E. Randolph, Vt.	Married several years. ?	?	?	?	Internal remedies. Morphine per rectum.	Death.	"Called in consultation." "She gradually sank and died."	(Same as above)
22	W. S. Brown, M.D., Stoneham.	26	M_2	About the 12th wk.	16th wk.	Internally only. Usual remedies had no effect.	Death.	"Labor pains set in on October 14th, about 2 A.M., and the fœtus was expelled at 7 A.M." "Convulsions and coma supervened and terminated the scene about 9 A.M." "One thing remarkable was the absence of emaciation." The question occurs, "What was the cause of death?" "It was not due to starvation, nor to Bright's disease, nor to any operation upon the womb. Exhaustion of nervous energy, therefore, seems the most probable answer."	Jour. of the Gynæcological Soc. of Boston, vol. ii. p. 208.
23	A. H. P. Leuf, M.D.	22	P?	Probably 6th to 8th week.	About 12th wk.	Internally only. Pregnancy not suspected.	Death.	The patient was not married. Pregnancy was not suspected. "The case was mistaken for gastric ulcer." "The symptoms also pointed to a local gastric	Proc. Med. Soc. County Kings Brook'n 1883, 1834, viii. 48-50.

TWENTY-EIGHT CASES OF UNCONTROLLABLE VOMITING, IN WHICH ARTIFICIAL ABORTION WAS NOT INDUCED. (*Continued.*)

No.	Reported by.	Age.	Multip. or Primip.	Vomiting. Began.	Vomiting. Ended.	Treatment.	Termination.	Condition and Remarks.	Reference.
23	(*Continued.*)							affection." The vomitus was at times bloody. She was admitted to hospital Feb. 26, and died Mar. 10." "This case demonstrated the necessity of sometimes emptying the uterus."	
24	Giles S. Mitchell, M.D.	28	P	Probably about 6th week.	15th wk.	Everything internally. Nutritive enemata.	Death.	"The induction of premature labor was suggested in consultation, but as the patient had almost reached the period of gestation when the uterus escapes from the pelvic cavity, and vomiting usually ceases spontaneously, and as it met with strong opposition from patient herself, we concluded to wait." Improved for about two weeks but being allowed to eat solid food, vomiting set in and patient died in a few days."	Obst.Gaz.Cinn. 1885, viii. p. 115-132.
25	Wm. H. Veatch, M.D., Carthage, Ill.	27	P	Begun in 3d week, not troublesome till about 15th wk.	21st wk.	Everything internally. Cervix cauterized.	Death.	Vaginal examination at 15th week, (when patient was first seen) showed extreme ante-version. Patient refused to have any attempt made to correct displacement. Steady failure up to the 20th week, when she aborted. No vomiting occurred after the first indication of abortion. Died in one week of septicæmia.	Peoria Medical Monthly,1884, 1885, p. 682-687.
26	W. J. Collins, M.D.	?	P		29th wk.	Internally only.	Death.	Finally labor set in, vomiting ceased immediately after birth. Patient died three days afterwards, Child lived.	St. Bartholomew's Hosp. Rep., Lond., 1883, p. 121.
27	C. E. Stedman, M.D.	24	?	8th week.	16th wk.	Everything internally. Churchill's Tr. Iodi. to cervix.	Death.	Quinia in moderate doses was the only drug given. Fed by rectum. Enemata finally rejected. "Progressive failure from the start, and death occurred two weeks from the date of admission." Temp. subnormal for first few days, an hour or two before death temp. rose to 106.5°. Pulse was never above 130.	Boston Med. and S. Jour., 1883, 109, p. 529.
28	See reference.	24	M_2	1st week.	12th wk.	Internal remedies with failure. Tr. Iodi. to cervix. Nutritive enemata.	Death.	Patient did not vomit constantly: was very delirious the night before death. No vomiting for six to ten hours previous to death. Enemata were almost invariably retained.	Boston City Hosp. Rec., vol. 232, p. 6, (Medical Records.)

SUMMARY.

Recoveries 14	Multip. 8, Primip. 4, Not stated 2	Deaths 14	Multip. 3, Primip. 9, Not stated 2
Spontaneous abortion with recovery 3	Vomiting ceased 2, Not stated 1	Spontaneous abortion with death 3	

TWENTY CASES OF UNCONTROLLABLE VOMITING OF PREGNANCY, IN WHICH ARTIFICIAL ABORTION WAS INDUCED.

No.	Reported by.	Age.	Multip. or Primip.	Vomiting. Began.	Vomiting. Ended.	Treatment.	Termination.	Condition and Remarks.	Reference.
1	Dr. Churchill.	Young.	M_2	About 4th month.	6th mo.	Internal treatment failed. Ovum punctured, followed by ergot.	Recov.	"We tried all the usual remedies with occasional relief, but the vomiting returned, and finding that she could retain no nourishment whatever, that her bodily powers were worn out, that her pulse was steadily 120, I determined at the sixth month to induce premature labor." "She was delivered of a dead foetus, recovered rapidly and has since born a child at full time."	Churchill's practice of midwifery, 4th edition.
2	J. Farrant Frye, Swansea.	37	M_2	Probably about 4th month.	?	Internal remedies failed. Artificial abortion. Method not stated.	Recov.	"The patient's condition became desperate; labor was induced as the only means of saving life."	British M. J., 1880-1, p., 399.

TWENTY CASES OF UNCONTROLLABLE VOMITING, IN WHICH ARTIFICIAL ABORTION WAS INDUCED. (*Continued.*)

No.	Reported by.	Age.	Multip. or Primip.	Vomiting. Began.	Vomiting. Ended.	Treatment.	Termination.	Condition and Remarks.	Reference.
3	W. J. Collins, M.D.	26	M_4	About 6th month.	?	Introduction of a gum elastic catheter 8 inches.	Recov.	"Vomiting ceased immediately after birth."	St. Bartholomew's Hosp. Rep., Lond., 1883, p. 123.
4	S. G. Moses, M.D., St. Louis, Mo.	Under 30 years.	M	?	Between 2d and 3d month.	Bougie to fundus between membranes.	Recov.	"Never vomited after introduction of bougie and eventually aborted."	St. Louis Courier of Med., 1884, 11, p. 252.
5	S. G. Moses, M.D.	Under 30 years.	M_2	?	Between 2d and 3d month.	Ovum punctured.	Recov.	"When first seen was in moribund condition." Out of danger in twenty-four hours. In first pregnancy vomited several weeks and then aborted, with relief from vomiting. Several children since without trouble.	St. Louis Courier of Med., 1884, 11, 250-262.
6	R. Scot-Skining, M.B. et Ch. m., Edin., Phys. to the Prince Alfred Hospital, Sydney.	21	?	3½ mo.	About 7th mo.	All the usual medicinal remedies were exhausted. Finally, introduction of bougie and dilatation of cervix with Barnes' fluid dilators.	Recov.	Patient was a passenger on board an emigrant ship, sailing from Plymouth, Eng., to Australia. "The morning sickness was intensified by sea-sickness." Bass' Ale was retained when all else was immediately vomited. "For the first few days after delivery the patient remained in a very low state, but with the entire absence of the distressing vomiting which had before existed. Food was now readily retained, and in an astonishing short time I had the satisfaction of seeing her in a condition which removed all further anxiety from my mind."	The Australasian Medical Gazette, Sept. 1884, vol. iii. No. 12.
7	Dr. Scott.	? Probably young.	P	6th week.	10th wk.	Artificial abortion. Method not stated.	Recov.	"Nausea left from time fœtus came away."	St. Louis Courier of Med., 1884, 12, p. 61-67.
8	Dr. Coles.	?	?	?	?	Artificial abortion. Method not stated.	Recov.	Patient was relieved from nausea and vomiting instantly.	St. Louis Cour. of Med., 1884, 11, p. 259-260.
9	Dr. Ward.	38	P	?	"In the 8th mo."	Everything internally failed. Induced abortion. Hot douche to internal os followed by Barnes' dilator.	Recov.	Patient was seen "on account of such excessive prostration due to continuous vomiting." "Every therapeutic means had been adopted without avail." Podalic version. Dead hydrocephalic child with peeling epidermis. "In less than twenty-four hours she was able to retain whatever nourishment was given." Rapid recovery.	N. Y. Med. J., 1880, xxxi. p. 406.
10	Wm. Warren Potter, M.D., Batavia, N.Y.	23	P	? Probably about 10th week.	14th wk.	Internal remedies failed. Nitrate of silver. Tinct. iodi. locally failed. Artificial abortion.	Recov.	"There was inter-current catarrhal bronchitis present." "Rectal alimentation and medication having failed to arrest the progress of malady, the direful alternative of putting an end to the pregnancy was forced upon me."	Am. J. Obst., 1880, xiii., p. 85, 98.
11	M. H. Jordan, M.D.	24	P	?	14th wk.	Internal treatment failed. Nitrate of silver to cervix failed. Artificial abortion. Cervix dilated and fœtus scooped out by hand.	Recov.	"When first seen, patient had been confined to bed for five weeks with a distressing and uncontrollable nausea and vomiting." She was much emaciated, quick pulse, some fever, and retained comparatively nothing on her stomach." There was considerable difficulty in bringing on labor pains but finally it was successfully accomplished. Patient was so weak at time of abortion, that she could not turn herself in bed. "After the operation she never became sick at the stomach, or vomited a single time." In two weeks she was able to be carried home from Birmingham, Ala., to Chattanooga, Tenn. "If this woman had not have aborted, she certainly would have died."	Ameri'n Pract., Louisville, 1879, xx. 305-309.
12	W. T. Wright, M.D., Winfield, Kansas.	24	P	6th or 7th week.	About 10th wk. Thirteen days after serious symptoms set in.	Everything internally with failure. Artificial abortion. Pains set up by electricity, ergot sounds and tents failing.	Recov.	"Pulse gradually rose until it reached 140-150 at time of abortion, at which time the following conditions were present:" "She was a fleshy woman, now the skin hangs loose on her limbs, eyes deeply sunken; a markedly pinched appearance of her features. Respirations 40 per minute, pulse rapid and indistinct, surface hot and dry, extreme dyspnœa, restless throwing about of limbs, general tremor. On the day following the abortion she called for food which was relished and retained.	Peoria Medical Month., 1883, 4, iv., p. 6-14.

TWENTY CASES OF UNCONTROLLABLE VOMITING, IN WHICH ARTIFICIAL ABORTION WAS INDUCED. (*Continued.*)

No.	Reported by.	Age.	Multip. or Primip.	Vomiting. Began.	Vomiting. Ended.	Treatment.	Termination.	Condition and Remarks.	Reference.
13	T. G. Thomas, M.D., New York.	? Young.	P	3d week.	10th wk.	Artificial abortion. Cervix dilated and fœtus and placenta scooped out with ordinary wire curette.	Recov.	Patient dispelled a "phantom" tumor about three months before, thinking herself to be pregnant. When first seen had been vomiting two and one-half months. As a result of the vomiting she had become excessively emaciated." After curetting the vomiting ceased at once and patient recovered entirely.	Am. J. Obst., N.Y. 1881, xiv. p. 674.
14	N. C. B. Haviland, M.D., Danville, Vt.	23	?	5th or 6th week.	15th wk.	Internal treatment failed. Artificial abortion by injection of tepid water, one ounce, into uterine cavity.	Recov.	This case was complicated by attacks of petit mal. The hypodermic injection of morphine was the only drug that had any effect. Nitrate of silver to cervix freely, failed, though for a time it seemed beneficial. After labor was started patient fainted at every pain, "rallying by repeated hypodermic injections of brandy and liq. ergotæ." After delivery, "no symptoms of fainting again occurred, and patient immediately commenced to take cracked ice and brandy, with no return of nausea." Patient had a tedious recovery and has since had irregular attacks of petit mal.	Am. J. Obst., 1883, xvi. No. 2, p. 165-168.
15	Geo. Davenport, M.D., E. Randolph, Vt.	34	M_5	4th wk. ?	6th or 7th week.	Internal remedies failed. Artificial abortion — sound introduced.	Recov.	No nourishment in stomach for over two weeks. Life sustained solely by nutritive enemata. Pulse 120-130. "Could not turn herself in bed," nor move her lower limbs. Features pale and sunken. Death appeared inevitable. "The patient, notwithstanding her great prostration, made a good recovery, slowly to be sure, but with not one untoward symptom."	Tr. Ver. M. Soc. 1878, St. Albans, 1879, 39, 49.
16	See reference.	20	P	5th wk.	About 17th wk.	Internal remedies failed. Tr. iodi. to cervix. Artificial abortion by means of sponge-tent and sound passed into uterine cavity.	Recov.	Patient was unmarried. Last catamenia Dec. 25, 1868. Nausea two weeks later. Vomiting began on 5th week. Entered Boston City Hospital, February 6, 1869. On February 25, vomiting having continued almost incessantly, the following condition was present: — "Has lost much flesh, cheeks flushed, countenance haggard, conjunctivæ suffused, eyes dull, tongue red without coat, pulse 132 and very small — os uteri to be dilated by sponge tents." February 28 — "Large sponge tent withdrawn, leaving os fully dilated." "Sound passed in about three inches, very little hæmorrhage followed — no severe pain." March 1 — Vaginal examination shows external os dilated, but internal os closed. Patient's condition remained about the same until March 31, when she was seized about 9 P. M. with sharp pains in hypogastric region, which by morning assumed a bearing-down character. Pains lasted about twenty-four hours, when both fœtus and placenta were expelled, scarcely any hæmorrhage following. Patient made a slow, tedious convalescence. Vomiting did not entirely stop for over three weeks. Was discharged well, June 10, patient being in hospital four months and four days.	Boston City Hosp. Med. Records, vol. 35, p. 132.
17	Geo. T. Elliot, M.D., New York.	32	M_9	About 6th month.	Between 7th and 8th mo.	Internally everything failed. Artificial abortion by means of hot douches.	Death.	No trouble with previous labors. "Supporting treatment was resorted to by the mouth and rectum, but she steadily lost ground from the date of her admission (to hospital.)" Child born living apparently between seventh and eighth months, small and puny. "Patient died in about ten hours." "Intelligence uninterruptedly clear, vomiting never having been checked."	Obst. Clin., p. 167.

TWENTY CASES OF UNCONTROLLABLE VOMITING, IN WHICH ARTIFICIAL ABORTION WAS INDUCED. (*Continued.*)

No.	Reported by.	Age.	Multip. or Primip.	Vomiting. Began.	Vomiting. Ended.	Treatment.	Termination.	Condition and Remarks.	Reference.
18	Dr. Engelmann, St. Louis, Mo.	Young.	P	?	6th mo.	Artificial abortion.	Death.	"Patient died in eight to twelve hours after abortion was produced. Vomiting was finally stopped by application of carbolic acid to cervix and a tampon of tannic acid, glycerine and carbolic acid; and it was thought possibly the chances might be better if the ovum were removed."	St. Louis Courier of Medicine, 1884, 12, p. 61-67.
19	S. G. Moses, M.D., St. Louis, Mo.	Under 30 years.	P	?	Between 2d and 3d month.	Artificial abortion. Ovum punctured.	Death.	Patient had been "vomiting for five or six weeks almost incessantly; could retain absolutely nothing." At time of abortion patient was moribund, feeble pulse, fetid breath and foul tongue. Vomiting ceased in twenty-five or thirty minutes. "Death from absolute starvation."	St. Louis Courier of Med., 1884, 11, p. 250-262.
20	S. G. Moses, M.D., St. Louis, Mo.	Under 30 years.	M_2	?	Between 2d and 3d month.	Artificial abortion. Ovum punctured.	Death.	"Persistent vomiting." "Could retain nothing." After abortion, vomiting stopped. Patient "actually starved to death." Died in twelve hours.	St. Louis Courier of Med., 1884, 11, p. 250-262.

SUMMARY.

Recoveries.....16 (Multip. 6; Primip. 7; Not stated 3)

Vomiting relieved by abortion instantly or very soon 2
Vomiting relieved before abortion..... 1
Vomiting not relieved by abortion..... 1
} with death.

Deaths.....4 (Multip. 2; Primip. 2)

Average time of death after abortion, in 3 cases.....10⅔ hours.
Average time of death after abortion, in 1 case.....Not stated.

Vomiting relieved by abortion instantly or very soon (a few hours).....11
Not stated in report.....4
Not relieved (for three weeks).....1
} with recovery

I have thought it might be interesting to compare the results of treatment in all the well marked cases of this affection that I have been able to find reported, and hope that it may lead to a full conference of opinion by the gentlemen present, as to their individual ideas regarding this disease and their experience in the treatment of the same.

RECURRENT HEADACHE IN CHILDREN, AND ITS TREATMENT.

BY RUSSELL STURGIS, M.D.

IT is not uncommon to see children complaining of headache whose general health is apparently good. Such children usually are troubled with headache more or less severe, recurring at intervals of days or weeks, and each attack lasting from a few hours to a day or more. You will generally find that the child has been subject to these headaches for a year or more before treatment is sought for this particular symptom. As a rule, it will be noticed that the patients are of nervous temperament, that they do not sleep well, that they grind their teeth at night, and frequently suffer from bad dreams and nocturnal terrors. Frequently these children will have a spasmodic cough, particularly at night, even if there be no signs of pharyngitis or laryngeal irritation to account sufficiently for such cough. It may be noticed that the child has difficulty in keeping its hands quiet, that if told to keep standing quietly it will constantly change its weight from one foot to the other. In temper the child is apt to be fretful. Nothing particular is to be noticed about the face with the exception of a peculiar heavy expression about the eyes. This expression is noticed in people with migraine, and also in any depressing illness. Dr. Warner,[1] after careful examination, thinks this expression is due to lack of tone in the orbicularis palpebrarum, giving "an appearance of flabbiness about the lower eyelid; the skin hangs too loose with an increase in the number of folds, and in place of falling neatly against the lower eyelid as a convex surface, it falls more or less in a plane from the ciliary margin to the lower margin of the orbit, a condition often best seen in profile." This heavy expression about the eyes is not noticed in all cases of recurrent headaches.

These headaches generally come on in the morning, though the child may be perfectly well on going to bed the night before. The pain is generally localized in some particular part of the head, either side, frontal region or vertex. The pain is severe, during the seizure, usually preventing study or play. It is not unusual for there to be optical illusions of sparks, or bands and spots of color. There may or may not be nausea during the attack. The child generally feels cold, and in winter prefers to lie near the stove huddled up in a chair.

The picture is very like that of migraine in the adult, with this difference: the pain is more apt to be across the forehead and may be at the base or at the vertex of the skull; there is rarely vomiting or nausea with the attack, and such attacks seem to yield to a treatment which is of very little use in hemicrania of the adult.

Dr. Eustace Smith in his latest book, considers the headaches identical with migraine. Dr. Warner is inclined to think that these recurrent attacks are but a mild form of chorea. It has been shown by Dr. Hughlings Jackson and by Dr. Herman that in cases of chorea about seventy-five per cent. of the children suffered from recurrent headaches.

Since 1882 I have seen sixteen cases of recurrent headache. At first I spent a long time unsuccessfully in trying to relieve the patient by attention to diet and

[1] Physical expression.

hygienic surroundings, by general tonic treatment and the exhibition of citrate of caffein and guarana. At last, remembering what Niemeyer calls the "fanciful hypothesis of Du Bois-Reymaud and Möllendorf," that the pain may be due to excitement of the terminal sensory filaments of the fifth pair by dilatation of capillary blood vessels of the dura mater, I thought I would use ergot for its effect on the circulation through the arterioles. The results have been highly satisfactory. The longest time required to free a patient from the attacks has been four weeks. In one case two doses of ergot gave relief.

It has been my practice to give m x of the fluid extract three times daily after meals, and to continue the treatment for two weeks at least after disappearance of pain. I generally have used ergot alone, but in one case combined it with iron. Dr. Eustace Smith[2] uses strychnine in combination with ergot. I give below four typical cases. Case I and III were brother and sister; they were both rather tall children for their ages, had the heavy expression of the eye extremely well defined. Their mother, when a child, suffered from recurrent headaches but had "outgrown" them. The pain in these two cases was across the forehead. Nervous symptoms were not well marked in these two cases. Case II had pain in the right side and was decidedly a nervous child. Case IV had his attacks at night with pain at the vertex, and did not respond quickly to treatment. In no cases could abuse of tea be held responsible for these headaches.

Case I. L. B., age thirteen, first seen November, 1882. She is a tall, well nourished girl, rather anæmic in appearance. Lives in a nice sunny house in a good neighborhood. She began to complain of headaches about three years ago, but they did not recur with sufficient frequency to make it worth her mother's while to have them especially treated. Now she has a headache as often as three times a week, lasting generally from when she gets up in the morning till when she goes to bed at night. During the attack of headache she never has nausea but frequently sees sparks of light or spots of red. Nothing but slight astygmatism was detected on examination of the eyes. Suitable glasses were provided without diminishing the frequency of recurrence of headaches nor their severity. I kept her for some time under general treatment, using tonics, sedatives, etc., and also using specific remedies for headache, such as guarana and caffein till January, 1883, when I began the use of ergot, m x fluid extract. Improvement was marked in a few days, and she remained free from headaches till the following October, when a course of ergot again relieved them and she has continued free from them since.

Case II. J. S., age eight years, March, 1884. A small black-haired fidgety Irish girl, not anæmic, well along in her studies, and very ambitious, fond of school and of playing out of doors. I had seen this same child before when suffering from headache, due, I thought, to the abuse of tea. On my advice she gave it up and had not taken any for about three months, when I saw her in March. She complains solely of headache coming on about once a week and lasting not more than twelve hours at a time. There were no signs of chorea in her case, with the exception of her unwillingness to stand still for more than half a minute at a time, when I was talking to her, and a moving about of her hands, which, however, was under control of the will. Nothing abnormal in eyes. After two weeks treatment she was relieved of her headaches, and the mother told me about a month ago that she had had no return.

Case III. F. B., age eight years, June, 1885. A brother of Case I, complains of the same headaches that his sister used to have, the pain in the frontal region as with her. Has very much her appearance, the heavy expression of the eyes being particularly well marked. Appetite is fair. The attacks in this boy come on about once a month, and last one or two days at a time. He has nausea towards the end of his attack of headache. Urine normal. The present attack disappeared after three doses of ergot, which, however, was exhibited for two weeks longer. He has not suffered from headaches since.

Case IV. I. M., age eleven years, November, 1885. An Irish boy fond of play but not of school. General health all that can be desired. He is free from headache during the day, but at night is waked up by pain across the vertex. He thinks the attacks last about one hour and then pass off, to recur again perhaps before morning; he has generally two bad nights each week. This case was examined with great care but nothing abnormal detected in the eyes, nothing wrong about the urine, and no reason to make a diagnosis of cerebral disease. His headaches gradually disappeared after continued use of ergot for four weeks. He is now free from his pain.

[2] Disease in Children, 1884.

RECENT PROGRESS IN LEGAL MEDICINE.

BY F. W. DRAPER, M.D.

ON THE IDENTIFICATION OF HUMAN BLOOD.

To the solution of this important and still unsettled medico-legal question, Dr. Masson, "Pharmacien-major" of the French army, has contributed an elaborate series of original observations.[1] After an interesting historical review of the subject, showing the gradual and progressive transition from the crude chemical tests of Orfila's time to the period, beginning with 1857, when Robin relegated chemistry to a place of secondary importance in the diagnosis of suspected stains, and asserted that the microscope was the true master of the situation, the author quotes from many distinguished writers and experts — Virchow, Roussin, Blondlot, Rabuteau, Malassez, Hofmann, and others — to show how varied, and sometimes contradictory, are the opinions of men of the highest authority concerning blood-stains. Each observer has looked at the problem from the point of view of the case of homicide which was presented to him, supporting his conclusions upon parallel experiments, under conditions identical, as nearly as possible, with those of the affair in hand, rather than upon principles acquired scientifically. The composition of the fluids used to restore the dried blood-globules has varied with each observer; some were acid, some alkaline, some of seemingly neutral effect upon the globules, some distending, and others contracting them. Under such circumstances, it is not strange that great diversity of conclusions should result. Some declare that a certain kind of fluid has power to restore to the globules their normal characters of form and size; others recognize the

[1] Annales d'Hygiène Publique et de Médecine Légale, May and June, 1885.

power of the solution to isolate the globules, and no more; some state their ability to restore the corpuscles in great numbers; others can find only two or three satisfactory elements in any one preparation, and these with difficulty; for some, the globules, under their manipulation, become just like a preparation of fresh blood; with others, they remain irregular, distorted, unrecognizable; certain experts declare that it is an easy thing to identify human blood-globules, and to affirm their presence in a stain; with the great majority, it is impossible. How this uncertainty weighs upon the expert, who, called upon to pronounce on a subject so grave, seeks vainly for a guide which shall teach him within what limits he can, and ought to enlighten justice!

In the presence of these rather discouraging conditions, Dr. Masson undertook a series of independent inquiries, designed to elucidate the following points:

(1) To determine, under the various circumstances in which the question may be presented to the expert, the artificial fluid which gives, with human blood, the preparations most favorable for micrometric purposes.

(2) To study the causes of the changes in blood-globules, and to define their effects as far as possible.

(3) To experiment upon the blood of animals simultaneously with that of man, and to ascertain within what limits the expert may be positive as to the origin of the blood in a given case.

In experimenting with fresh blood, whether clotted or liquid, Masson found Vibert's fluid the most useful for preserving the globules in their normal form and volume; this fluid is composed of bichloride of mercury (five parts), chloride of sodium (twenty parts), and water (one thousand parts).

If the blood has become dried upon surfaces and substances which are not porous, Virchow's fluid (liquor potassæ and water) gives the best preparations for the microscopic examination of blood-stains. This solution sets free the globules by dissolving the substance which holds them; it leaves a clear view of the corpuscles unobscured by debris. It is not necessary that the stain should be either large or thick; a little spot of blood, no larger than the head of a pin, if it be found on an impervious surface (the blade of a weapon, a pavement, a wooden floor, bone or metallic button, wainscoting of a room), will give better results, under the action of the potassa solution, than a linen or cotton shirt fully covered with blood-stains.

In discussing this latter condition, the presence of blood-stains on various fabrics, the author distinguishes two kinds of material: according as it is, or is not, moistened by the blood through capillary action of the fibres. If a drop of blood falls upon felt, it tends to preserve its spherical shape and to dry upon the surface of the wool, without penetrating it. If, on the contrary, the fabric is of a nature to absorb the blood, and to become moistened by it, the capillary phenomena result in the dispersion of the blood-globules, which are found encasing each filament of the cloth, while the plasma penetrates the filament itself.

When the crust of dried blood is found upon the fabric, without having penetrated it, the same manipulation which is useful in blood-stains upon impervious surfaces (wood, metal) is available, and Virchow's fluid is the best. But in dealing with porous fabrics, the author's results were uniformly unsatisfactory. Whether the stain be days or months old, whether one uses the powder obtained by unravelling the dry tissue holding the stain, or first moistens it by imbibition or maceration, the fluid used is powerless to restore the distorted and shrunken globules. The cotton, linen, or hemp fibres appear covered with a yellowish gloss, forming a sheath which may be removed by careful manipulation. This sheath is found to be made up of irregular, shrivelled, and closely-welded globules, forming a true mosaic upon the filament. Isolated globules may sometimes be seen lying outside this compact sheath, but these are always shrunken and out of shape. Very rarely, a single globule is found which has escaped the common lot and has kept its form, and, perhaps, its normal volume. The separation of the welded mass of globules is not an easy matter; unless the expert uses great care, he runs the risk of mistaking for isolated corpuscles, fragments made up of the remains of adjacent corpuscles. The search for globules of normal form and size, in blood-stains on linen or cotton cloth, will be fruitless; the expert may be able to declare that the stain is a blood-stain, and to distinguish the globules of mammals from those of birds by the nuclei in the latter, but that is all. The only exceptions to this are cases, in which the blood is in sufficient amount to form crusts, or in which it has dried on the surface of fabrics of very close texture.

As causes producing modifications in the shape and size of blood-globules, as they are found in stains, the author names the nature of the surface on which the stain is found, the thickness and age of the stain, its desiccation, and the temperature and moisture of the surrounding air. Age does not appear to have a very important influence; whether the stain be one day, or ten months old, its elements are not appreciably different. Once dried, the globule does not tend to change farther. But it is an error to assign a destructive action to desiccation. When the drying process is rapid, it fixes the globules at once in their primitive shape, without modification of their dimensions. Acting on this principle, Welcker has made measurements whose value has been recognized as perfectly exact by all hematologists; he places a minute drop of blood upon a glass slide, heated to 60° (C.), and spreads it immediately in a thin layer, by means of a needle held horizontally.

But if the desiccation is slow, the globules remain very fragile, and very ready to take on changes in form and size. Thus, moisture in the air, as it retards evaporation, is one of the more important agents in causing the changes described. To study this influence, and to define its effects as far as possible, the author placed drops of blood on different surfaces (glass, a knife-blade, wood, pebbles, cloth), and these he put under a bell-glass over a saucer filled with water. After a fixed period, the blood was examined upon its removal from the moist chamber, before drying, and after. The globules showed essentially the same appearances under the microscope, at the moment of removal from the bell-glass, and after their desiccation.

In dried blood, the blood-globule resists, for a very long time, all conditions which otherwise would change it. No fluid known can restore to the altered blood-globule its primitive form and dimensions. Once distorted and shrunken, all the blood-globules of mammals are alike. The contraction of the globules being accompanied by characteristic changes in shape, very easy to distinguish from those which result from reciprocal compression, whenever a globule has preserved

its flattened, bi-concave clearly-outlined shape, it must be regarded as normal, and as a standard for measurement. But when the globule is altered in shape, the expert should acknowledge his inability to make a diagnosis of its origin.

The closing section of Dr. Masson's article is devoted to a study of the micrometry of blood-globules. He quotes Vibert's remark, that the diameter of blood-globules varies within limits which are relatively considerable, not only in the same species, but in the same individual; that the most competent observers are far from giving the same average diameter, or the same maximum or minimum diameters to the globules of the same animal; that, assuming the corpuscles to have absolutely fixed dimensions, it is not possible to distinguish with certainty, one with a diameter of 0.0075 mm. (man), from another with a diameter of 0.0073 mm. (dog). Masson emphasizes the necessity of making many observations, of taking the mean of fifty or a hundred diameters in any given case, instead of relying on the dimensions of any single globule.

The greatest cause of error results from the variable diameters of globules from the same individual, an error very difficult to control. Another source of error lies in the fact that pathological changes may occur in the globules to modify their size. The measurement of globules from fresh blood is a rare necessity in legal medicine; the expert has to deal with old and dried stains. To the examination of these latter, the author has devoted most of his attention. We have space for a few of his results only. The blood-globules of birds and fishes, when dried on cotton or linen cloth, lose their elliptical shape, and become shrunken and irregular; their nucleus is the one essential and permanent characteristic which distinguishes them from mammal globules. Human blood-globules resist change better than those of other mammals; they also have a deeper color. But much depends upon the substance and surface where the blood-stain is found; stains on cotton, or other absorbent fabrics, if derived from mammals, cannot declare their origin to the microscope, their globules having became greatly altered, as described previously.

Where, however, the material for microscopic study is a bit of dried crust of blood, found on an impervious surface, it may be possible, after taking the average of many measurements, to distinguish the origin of the blood in the stain submitted to the expert. In many cases, however, the conclusion amounts to a probability only, unless we are dealing with the blood of fishes or birds, which is distinguished from human blood with comparative ease. The author found that, as the result of his great number of examinations, made under favorable conditions, it was easy to differentiate human blood-globules and those of the pig, the ox, and the cat; a delicate matter to settle the difference between the blood of man and that of the dog; still more uncertain when rabbit's blood was in question, and impossible to decide between human blood and that of the guinea-pig.

CHRONIC ALCOHOLISM.

Alcohol plays such an important part in most medico-legal affairs, that new light upon the anatomical changes wrought by this agent must always be welcome to the medical jurist. Dr. Formad recently presented to the pathological Society of Philadelphia,[2] an analysis of two hundred and fifty autopsies on the bodies of drunkards, illustrating the most prominent anatomical lesions of chronic alcoholism. He considered the most conspicuous changes to be cyanotic induration of the kidneys, fatty infiltration of the liver, and mammillated stomach. His cases had been those in which there was a history of a long-continued series of debauches, of subjects dying in one of these debauches, and did not include moderate drinkers, or those who perished after an enormous quantity of alcohol, without any previous chronic excesses. He thought that the exposure, irregularities of diet, etc., incident to a state of drunkenness, had much — probably more than the alcohol itself — to do with the production of the lesions, but it is not at all possible to separate one from the other. He gave a long list of morbid changes, considered by various authors to be the results of chronic alcoholism, among which cirrhotic liver, with contraction, holds a prominent place. He had himself, at one time, considered cirrhosis a very frequent, if not an almost necessary concomitant of long-continued excessive use of alcohol, and had testified in court, that a certain person was not likely to have been a hard drinker, because, at the autopsy, no cirrhosis was found. He had thought, too, that the connection between the two is so close, that it is impossible to have a case of cirrhosis without a history of alcoholism, as is held by various authors. Therefore, it was surprising to him to meet in the two hundred and fifty autopsies, with only six cases of cirrhotic contraction of the liver. In two hundred and twenty cases, the liver was considerably, or even very much enlarged, the enlargement, in most cases, being due to fatty infiltration. Cyanotic induration of the kidneys and chronic gastritis, with mammillation of the stomach, were found in nearly every case. This cyanotic induration is peculiar and differs from that due to heart disease.

In the course of the discussion, Dr. William Osler said that his own experience with livers in a large number of autopsies in cases of chronic alcoholism, had led him to divide them into four classes: (1) Those in which the condition is pretty satisfactory; some individuals may take alcohol for many years, and yet the liver will pass muster. (2) Fatty cirrhotic livers; the cirrhosis may not be distinct to the naked eye, but is plainly shown by the microscope. This is the largest class. (3) "Hob-nail" livers; these, he would say, were much more common than in Dr. Formad's series. (4) Hypertrophic cirrhotic livers. In order of frequency, he would place the pathological changes in the liver, due to alcohol, as follows: fatty cirrhotic, hob-nail, hypertrophic cirrhotic, apparently normal.

RARE GUN-SHOT WOUNDS IN SUICIDES.

Professor Maschka, of Prague, medico-legal counsel for the Bohemian government, calls attention to the fact that, while suicides, in shooting themselves usually choose a part of the body which is easily accessible to them, cases of self-destruction by shooting do occur where the wound of entrance is found in extraordinary places, parts which, of course, must be within reach of the muzzle of the weapon in the hands of the suicide, but which are so unusual as to give rise to grave suspicion of homicide.[3] Especially does this suspicion arise where no details of the death are known or the body is found in an isolated spot, open to others.

[2] Medical News, November 21, 1885.

[3] The Medico-Legal Journal, September, 1885, page 227.

Maschka relates two illustrative cases, both of undoubted suicide. In one case, the bullet entered the head "somewhat to the left and about two and a half centimetres back from the top of the head." The hair around it was singed. The whole occipital region under the scalp was covered with extravasated blood. The bullet was found at the base of the brain between the left middle and posterior lobes.

In the other case, a young man was found in his room, lying dead upon a sofa, with a revolver by his side; the officers found the door of the room fastened on the inside. Post-mortem examination showed on the top of the head a small round wound with blackened edges, beneath which was found a bullet completely flattened and lying close to the bone. There was a depressed fracture of the skull at a point fifteen millimetres above the apex of the lambdoid suture and to the left of the sagittal suture. There was a second wound below the left nipple; this, on dissection, was found to involve the left lung, the pericardium, and the heart. It appeared that the suicide, failing to accomplish his purpose with the shot in the back of the head, directed a second and more successful shot toward his heart.

The author concludes that should cases occur wherein the external wound from a pistol is in an extraordinary location and the question of the manner of the death, whether by suicide or homicide, is to be determined, the following considerations are to be remembered:—

1. The possibility of reaching the part of the body in which the wound is located should be decided by the examiner by attempting to place on the corresponding part of his own body the muzzle of the weapon with his right or left hand.

2. Certain well-known appearances, such as burning, singeing, dark discoloration and hardening of the parts close to the wound must be present for a theory of suicide; but they do not prove this, because they do not exclude the possibility of the close application of the weapon by a second person against an individual while asleep, drunk or otherwise stupefied.

3. Other indications, such as signs of resistance, traces of a struggle, of robbery, or of injuries other than the shot-wound should be looked for. The character of the locality, the condition of the clothing and the circumstances under which the killing took place, are to be considered. An apparent motive for suicide should be sought for and any written or verbal expression of an intention to commit the act should be weighed as a basis for an opinion.

[To the second of these propositions, those who have had much experience with gun-shot wounds will be inclined to take exception. The author expresses himself too strongly when he states that "certain appearances *must* be present for a theory of suicide."—REP.]

CHANGES IN THE PUPIL AFTER DEATH.

From an interesting series of original observations upon the eyes of recently dead subjects and upon their behavior under certain physiological stimuli, Mr. J. N. Marshall draws the following conclusions:[4]

"(1) In most cases, the pupils are dilated at the time of death, the dilatation usually occurring within a short period of the fatal event. Dilatation at an appreciable time after death is quite exceptional. This condition is essentially paralytic and is independent of the state of the pupil during life, whether that is altered by drugs or by disease.

"(2) There is, in the great majority of cases, progressive contraction of the pupil after death. This varies within wide limits, both as regards its period of commencement and the degree of myosis attained. It usually begins within an hour after death, and continues for the next forty-eight hours. The contraction which is often unequal in the two eyes, is independent of the action of light upon the eye and of the occurrence of rigor mortis.

"(3) The pupil is susceptible to the action of atropine after death, for a period which probably varies with different subjects, but which may be as long as four hours when simple instillation is employed, and perhaps a little longer when the atropine is injected into the anterior chamber. The dilatation begins at about the same time after instillation of the atropine, as it does after instillation during life, but it differs from the dilatation after the latter in that it is of less degree, and that the influence of the atropine passes off sooner and leaves the pupil to follow its usual course.

"(4) The instillation or injection of eserine after death produces contraction of the pupil, but the period after death during which it can act is shorter than in the case of atropine.

"(5) The instillation of ergotine after death has no effect on the pupil, but its injection into the iris or anterior chamber produces contraction of the pupil up to at least two hours after death.

"(6) Pilocarpine injected into the dead eye has a slight myotic action.

"(7) The removal of the aqueous humor after death does not affect the ordinary behavior of the pupil.

"(8) Flaccidity of the iris during life is exceptional, but it is always present after death, and increases from the time of death onward."

[4] The Lancet, August 15, 1885, page 286.

Reports of Societies.

SUFFOLK DISTRICT MEDICAL SOCIETY. SECTION OF OBSTETRICS AND GYNÆCOLOGY.

ROBERT B. DIXON, M.D., SECRETARY.

DECEMBER 16, 1885. The meeting was called to order at eight o'clock, DR. JAMES R. CHADWICK in the chair.

DR. O. W. DOE read a paper entitled

THE ADVISABILITY OF INDUCING ABORTION IN CASES OF SO-CALLED UNCONTROLLABLE VOMITING OF PREGNANCY.[1]

DR. FRANCIS MINOT, in opening the discussion, said that much confusion respecting the prognosis and treatment of excessive vomiting in pregnancy might be avoided by dividing the cases into three categories. The first should include those in which the symptoms were moderate, and were easily controlled by suitable diet, by rest in bed for a few days, by regulating the bowels, by the occasional use of small doses of morphia, by the application of sinapisms to the epigastrium, etc. The patients always do well. The second class consists of those cases in which the symptoms are much more urgent, and the patients are in a serious, though

[1] See page 121.

not actually dangerous, condition. They are best treated by rectal alimentation, very little nourishment being given by the mouth, and that chiefly of Ridge's food, Horlick's food, Mellin's food, etc. The best nutritive enemata are composed of peptonized milk with brandy. Morphia is often required at night, and sometimes by day, subcutaneously. Perfect quiet should be enjoined, all talkative visitors being excluded. The position of the uterus should be investigated, and, if necessary, be rectified by suitable intravaginal support. These simple means will generally suffice to restore the patient to health, although they must often be continued for several weeks. It is this class of cases in which what may be called specific remedies have sometimes a remarkable effect, though in the majority of instances they fail altogether, such as the application of strong etherial tincture of iodine, or of the solid nitrate of silver to the cervix, and especially the dilatation of the os uteri, suggested by Dr. Copeman. If one studies the reported cases of cures by these means he will be struck by the absence of details respecting the symptoms, by which one might be able to judge of their severity. Dr. Copeman's method of dilating the os with the finger has now been supplemented by forced dilatation by means of instruments, probably because it was found to fail in so many instances. The truth probably is that these methods are of very little avail, and of none at all unless the general treatment is at the same time carefully carried out. The third class of cases comprises those which are wholly rebellious to any specific treatment, short of induced abortion, and which, in spite of the most careful management by feeding, morphia and seclusion, are very frequently fatal, unless the uterus be artificially emptied before the patient's strength is too far reduced to allow her to rally. An example of this class had lately come under his observation. A young lady was married in June last. She became pregnant early in July. A few weeks afterwards while she was staying at a watering-place, vomiting set in, and soon increased to an alarming degree. She was very judiciously treated by enemata of peptonized milk with brandy, which she retained with ease, and by the subcutaneous injection of morphia. There was but little change in the symptoms, for several weeks, and she was brought to Boston, September 6th, and placed under Dr. Minot's care. She was much emaciated, but though weakened by long continued inanition and incessant vomiting for five weeks, was not exhausted. The treatment was continued, and though at times there was considerable temporary improvement, on the whole the patient gradually lost ground. Although the uterus appeared to be healthy in appearance and position, a soft rubber ring was introduced to raise it as much as possible in the pelvis, though without the slightest beneficial result. The matters vomited consisted of small quantities of bile and mucus, scarcely any food, beyond a little coffee, having been swallowed. As the emaciation and exhaustion were progressing, the blades of a large pair of polypus forceps were introduced into the os uteri, and the cervix was dilated to the extent of nearly an inch. There was no change in the patient's condition in consequence of this operation, which was done September 27th. Accordingly on the 30th, it was repeated, the cervix being exposed with a speculum, and the forceps pushed up to the internal os, but not within it. Dilatation was effected with all the force it seemed prudent to use, causing some pain to the patient and considerable bleeding. As before, the operation was followed by no change for better or worse, in symptoms. It was then decided to take the patient to her home. On the evening of October 3d, she was placed in a sleeping-car, and a full dose of morphia was given just before starting for Baltimore, where she arrived the following forenoon, having borne the journey without great fatigue. Dr. Minot learned that after a few days she rallied a little, and then began to fail again, and it was decided to induce abortion. At the instance of one of the physicians the operation was delayed a day or two in order to allow of a trial of the local application of the nitrate of silver. This expedient also failed completely, and the operation was very skilfully performed by Dr. Howard, of Baltimore, October 26. No blood of any consequence was lost, but the patient sank rapidly, in spite of subcutaneous injections of brandy, and died in about an hour after its completion.

Dr. Minot had had occasion to perform this operation four times for excessive vomiting in pregnancy, the patients having been in each case in a state of alarming prostration. He also introduced a tent into the uterus in a fifth case with the intention of evacuating the uterus, when the symptoms ceased completely, and he declined to proceed farther. The patient, however, was dissatisfied with the result, and afterwards applied to another practitioner who carried out the procedure successfully. In a succeeding pregnancy she came under the care of Dr. Wellington, of Cambridgeport, with a recurrence of the same symptoms, maniacal excitement, with vomiting. Her condition was such that in consultation it was decided to induce abortion, which Dr. Minot did with Dr. Wellington's assistance, and the patient recovered perfectly. The second case was that of a lady who was so much exhausted that it seemed hardly possible she could survive the operation, which however was successfully done, after consultation with the late Dr. Charles Putnam. The vomiting ceased immediately, but many weeks elapsed before she rallied from the state of prostration to which she was reduced. The third and fourth cases were seen in consultation with Dr. Van Slyck, lately of Brookline, Mass. Each patient recovered rapidly after the operation. In conclusion, Dr. Minot said he had but little faith in the specific methods of relieving the excessive vomiting, though the first case above reported shows that occasionally they may be of service. Good nursing, careful feeding, including rectal alimentation, seclusion from all disturbance, and the administration of morphia will suffice, if employed with discretion and perseverence, to relieve a very large proportion of cases. When everything else fails, the induction of abortion is the only hope. If performed with antiseptic precautions, it is generally successful, but, as Dr. Doe well insists, only on condition that it be not too long delayed, and the patient unable to rally after it.

Dr. Fifield said he had seen several bad cases of vomiting in pregnancy, some of which were cured by very insignificant means, such as the application of a handkerchief wet with the tincture of opium and applied over the abdomen. Bromide of potash or choral have produced marked benefit. He mentioned a case of a woman in her second pregnancy said to be two months along. He passed a bougie into the uterus and let it remain over night. In the morning the woman was delivered of a fœtus fully three to four

months old. The woman was relieved somewhat, but the vomiting did not stop, and she sank and died. If the abortion had been induced earlier, the result might have been different.

Another case was that of a woman two months pregnant, and vomiting excessively. Dr. Fifield saw the case, with a Catholic physician. He advised bringing on labor, and the physician resigned the case, his religion prohibiting his being present. Dr. Fifield passed a small bougie but with no result. For three days he tried to empty the uterus, but in vain. The vomiting continued. Finally he succeeded in passing a bent Simpson's uterine sound ten inches into the uterus and vagina. The uterus was ante-flexed. The next morning the ovum had come away. Within six hours the woman retained food, and gradually recovered, sitting up in one week, and she is alive now. It was a charming sight, this sudden change from death to life.

It is not wise to delay long, if relief does not come early from medicine.

DR. DRIVER said that out of twelve hundred cases of pregnancy he has hardly seen a case of uncontrollable vomiting. One case was that of a woman, five months pregnant, who was taken with vomiting and purging in the month of August, and died in three days. It was really a case of cholera morbus. In consultation he has seen two cases of obstinate vomiting. The first was that of a woman six months pregnant, with whom everything had been tried. It was decided to start labor in the evening, but before that time pains came on. The woman vomited some for a year afterwards, and during this time developed paraplegia, recovering after two years. Some time later he was called to see a sister of this woman, and for the same purpose. In her he recognized a former patient whom he had attended at term. At that time, on digital examination, the finger passed into a slit on the right side of the os uteri, which he believed to be the entrance into the right half of a double uterus, and the child was born from the left os. In the present instance examination revealed a double os, symmetrical, with apparently a bag of water beginning to distend each. She was six months pregnant, and the problem was, which side contained a fœtus, or did both, and if a bougie were to be passed up, which side should be selected. Fortunately, pains came on, and it was soon apparent that the right side was pregnant, and that the seeming bag of membranes at the left was the thin and distended septum. As the fœtus passed down through the right os the left os became a mere slit. He was convinced that the uterus was double. The patient made an excellent recovery, although her condition had become very critical from the long-continued vomiting.

DR. MARCY reported the following interesting cases. The first was a young, healthy woman, recently married, who had been under the thoughtful care of a wise physician, himself a member of the family.

The stomach was intolerant to all food. Rectal alimentation had been resorted to, but emaciation had gone on rapidly, followed by alarming symptoms which appeared to seriously threaten life. Pregnancy had advanced to something beyond the third month. The position of the uterus was normal; it was movable and not tender; and the cervix was long and narrow. Forcible dilatation was twice repeated to the os internum to the extent of an inch, without the slightest relief. Abortion was instrumentally induced and was followed by a slow but perfect recovery. So far as known the patient has not since been pregnant.

Case II. The patient, about twenty-five years of age, had been delivered of one child two years previous to present pregnancy. Had always been a strong, healthy, vigorous woman, there being nothing especially noteworthy at the first pregnancy. Vomiting supervened at about the sixth week, and was continuous and persistent until at about the tenth week the exhaustion was extreme. Feeding had been resorted to in fluids repeated at very short intervals, also by rectal alimentation. The uterus was normal, apparently, in its position and development. Its position was changed by a long arched retro-uterine pessary without relief. As in the first instance, life seemed in the greatest danger, and here also the cervix was widely dilated without the slightest avail. Instrumental abortion was followed by a slow but complete recovery. Patient has remained sterile, but well.

Case III. Patient seen in consultation with Dr. Couch, of Somerville, and was in a very weak, exhausted condition. She was a primipara and about thirty years of age, described as being a strong, vigorous woman. Pregnancy at about the third month. Abortion had been advised, but refused as contrary to the rites of the Catholic church. Here dilatation was effected, but entirely without result, and the patient sank from exhaustion and died a few days later.

Dr. Marcy emphasized the importance of not waiting until the patient was in the last extremity, and thinks in the two first cases the recovery would have been much more satisfactory if the abortion had been performed earlier. He criticized the older methods of inducing abortion, with a sound, bougie, tents, etc., as unsatisfactory and dangerous. When necessary it should be done as a surgical aseptic operation. A vagina thoroughly cleansed, the cervical canal rapidly dilated instrumentally, and the uterus emptied at once of its contents. The vaginal track, after contraction of the uterus has occurred, should be carefully protected by iodoform dressing. In this way almost only, can safety from the dangers from hæmorrhage and septicæmia be secured, while the danger from shock would appear to be less under ether with the operation reduced to the minimum of time than when long drawn out through hours of exhausting pain.

DR. WEEKS remarked that he thought many of the sevére cases of vomiting in pregnancy occur in women who do not wish for children. He mentioned a case of a woman who had miscarried three times, once with a blighted ovum. There was excessive vomiting and salivation, followed by deep excoriations of the face. She was treated with great care. Enemata and the usual remedies were used, and a consultation was held. Premature labor was advised. There was a short anterior vaginal wall which probably bound the uterus down somewhat. A bougie was passed into the uterus, and as soon as pains were produced it was removed, and a sponge tent and tampon were inserted. The vomiting did not stop at once, but later the patient did finely.

DR. KELLY, in response to a call from the chairman, made a few remarks on the relation of physiology to the etiology and the therapeutics of the morbid action under discussion. He indicated the scope of his views by instancing Curare, a representative member of the Motor Depressants, as a rational agent in the treatment of those grave cases which at present

demand, as a *dernier ressort*, such a procedure as the induction of abortion, an operation which may well be stigmatized as the opprobrium of the "opprobria of medicine." He consented to enter more fully into the subject at next meeting.

DR. JOHN DIXWELL wished to be recorded as wholly in favor of inducing abortion with due care in all cases of much prolonged and dangerous vomiting of pregnancy, because this method alone, he believes, will as a general rule save the mother's life, and needless suffering, all suggestions or tendencies based on religious views to the contrary. At this time he was attending just such a case.

DR. CHADWICK said that he had been justified in his expectations of obtaining from Dr. Kelly a suggestion at least, of a theory which might bind together the apparently incongruous facts reported so abundantly by others.

Dr. Chadwick had himself got a clue which he hoped might, when followed up, perhaps lead to an explanation of the ordinary nausea and vomiting of pregnancy. In treating patients affected with nervous prostration, by Dr. Weir Mitchell's plan of frequent feeding, he had been early impressed with the immunity from nausea and faintness which resulted from the frequent administration of food. He had immediately adopted the same plan for the relief of the nausea of pregnancy with striking result. The "morning sickness" was almost invariably averted by a late supper and by milk during the night. A friend had recently told him of relief to the same nausea of pregnancy by the chewing of spruce gum. On trial this proved to be true in a number of instances, but not invariably. These two experiences naturally associated themselves together in his mind, but he could find no element of similarity except that in both cases the flow of saliva was promoted. This suggestion received some corroboration from statements that he had recently read in the journals of nausea alternating with salivation. He was loth to accept all these facts as due simply to the chemical effect of the free flow of saliva into the stomach, but was seeking an explanation in some physiological law governing the stimulation of the salivary glands and the stomach by changes in the nerve centres, induced by conditions of the womb.

DR. E. W. CUSHING showed several microscopic preparations of the various septic bacteria, as well as the typhoid bacillus, and the pneumococcus and others, of his own putting up, in explanation of a paper to be read at the next meeting.

THE NEW YORK ACADEMY OF MEDICINE.

STATED meeting January 21, 1886.

The order for the evening was a

DISCUSSION ON REFLEX SYMPTOMS IN NASAL AFFECTIONS.

It was opened by DR. E. GRUENING, of the Section on Ophthalmology, who said that in his remarks he could exclude ocular affections resulting from extension of catarrhal processes from the Schneiderian membrane. Having mentioned that hemicrania and asthma had been cured in a considerable number of instances by the removal of sources of irritation in the nasal passages, as reported now by many observers, he remarked that to the ophthalmologist the reflex affections of the nose were of very great interest. The connection between the latter and the eye was intimate, and the relations between the two were reciprocal. Thus, irritation of the nasal mucous membrane frequently produced lachrymation and other eye-symptoms; and in the case of certain irritable eyes, exposure of the organ to a strong light brought on attacks of sneezing. Knowing that ocular symptoms were met with in connection with nasal affections, one might reason *à priori*, if there were no other apparent cause, that the former are dependent on the latter; and if, after appropriate treatment, the eye symptoms still persisted we could conclude *à posteriori*, that such was the case.

In simple cases the instillation of cocaine into the nostrils often afforded a satisfactory test as to whether the ocular trouble was dependent on nasal irritation or not; for if it afforded relief to the eye-symptoms, we might conclude that the latter were to be attributed to the condition present in the nose. Dr. Gruening then related several cases of his own, as examples, in which the eyes were affected for many years in consequence of comparatively mild affections of the nasal mucous membrane, and in spite of the most persevering and skilful treatment directed to the ocular condition; but in which the eye trouble promptly disappeared as soon as the nasal affection was removed by appropriate treatment.

All the cases, however, were not of this simple character, and he then related several in which the reflex eye-symptoms were due to more serious pathological conditions of the nasal cavities. In these also, the eye trouble disappeared as soon as the source of irritation in the nose was removed. In one instance where the patient had suffered for many years, the eyes were permanently cured on the very day that a large mass of hypertrophied tissue was removed from the nose. During the past two years he said he had met with some two hundred cases in which he could refer the ocular symptoms to nasal trouble; but the treatment, which varied according to the circumstances of the case, was not always successful. In most of the unsuccessful cases, however, the patients had disappeared before the treatment was completed, or perhaps even fairly commenced. Still in about one hundred and fifty of the two hundred, complete relief had been afforded by the removal of abnormal conditions of the nasal passages.

Among the symptoms mentioned as most frequent in these cases of reflex eye trouble were: burning and smarting sensations in the eyes, more pronounced in the morning; inability to fix an object in ordinary daylight; irritation and gluing together of the lids; extreme sensitiveness to cold and wind; lachrymation. Other characteristics were: inefficiency of ocular treatment, and efficiency of nasal treatment, even in spite of the absence of nasal symptoms.

DR. THOMAS E. MCBRIDE related five cases which he thought served to illustrate the general subject under discussion. The first was that of a gentleman who consulted him in 1882, for well-marked migraine. The attacks were typical in character, and lasted for about eighteen hours, leaving him completely exhausted. In addition to appropriate hygienic and dietetic measures, he placed the patient on the use of arsenic and extract of cannabis indica. The former he gave up in about six weeks, but the latter he continued, in increasing doses, for fourteen months. By this time

the seizures were less frequent than formerly; but the patient had become disgusted with the cannabis indica, and complained that it made him sick. Indeed, he now suffered from almost constant nausea. In consequence this remedy was withdrawn and he was placed on the use of bromide of sodium, under which the attacks of migraine became less frequent still. While in Europe, however, he consulted Hach, who discovered that he had post-nasal catarrh, and the successful treatment of this completely and permanently cured the migraine.

The second case was that of a boy of eleven, who for several years had suffered greatly from headache, which was always much worse in winter than in summer. It was frontal in character, and it having been discovered that he had nasal catarrh, he was placed under treatment for this, and afterwards had no more headache.

The third case was that of a lady of neurotic antecedents, who was affected with lithæmia, had suffered from neuralgia and headache. The latter was situated in the upper part of the forehead, and extended towards the vertex. She was referred to Dr. Lefferts, who found that she had hypertrophy of the mucous membrane of the inferior turbinated bones; and the appropriate treatment of this condition put an end to her headache and neuralgia.

The fourth case was that of a married lady of fifty, in whom the menopause had taken place at the age of forty. She suffered from hemicrania and hay fever, but was cured by the local treatment of the nasal mucous membrane by a rhinoscopist.

The fifth case was that of a married lady who suffered from difficulty of deglutition and the regurgitation of food into the mouth after it had been swallowed. Four years ago she was treated in Europe for post-nasal catarrh, and had some still. There was undoubtedly gastric catarrh present also. Dr. McBride placed her on the use of iron and arsenic, and applied to the nasal mucous membrane a spray of four per cent. solution of cocaine, with the effect of completely relieving the symptoms mentioned, and thus far there had been no return of them.

DR. B. ROBINSON called attention to the fact that nasal diseases might produce reflex affections of the respiratory and digestive tracts, the genito-urinary apparatus and the cutaneous surface. On the present occasion, however, he said that he would limit his remarks to hay fever and asthma. It was time, he thought, that the designation, hay fever, was given up and that the affection thus called should be given its true name, vaso-motor coryza, as proposed by Dr. John N. McKenzie, of Baltimore. It was a curious fact, however, that the old pollen theory had recently been again brought into prominence by the advocacy of no less an authority than Morrell Mackenzie, of London; though it was no longer accepted by the great mass of observers. Still, pollen undoubtedly acted as an irritant in certain cases. Dr. Robinson then gave a sketch of the researches of Beard, who tried to prove that hay fever was a purely nervous affection, and of Daly, of Pittsburgh, who five years later showed its dependence on local conditions in the nasal cavities. Since then much light has been thrown on the subject by Roe, Sajous, Bosworth, and John N. McKenzie. The nasal trouble present in any case might be either permanent or temporary.

Sometimes cough was dependent on nasal conditions, as, for instance, the presence of a polypus, deviated septum, atrophy, hypertrophy, and chronic rhinitis; but although asthma sometimes occurred in connection with these conditions, they might, of course, exist without giving rise to asthma. In this connection he related the case of a well-known physician of a neighboring city, who suffered greatly from the latter affection. A number of polyps were removed from his nose, but the asthma, which was no doubt dependent on an old bronchial catarrh, still remained. It was not to be forgotten, also, that asthmatic symptoms might be the result of reflex influence from abnormal conditions of other organs, such as the liver, stomach, uterus, and even the spleen. In every case of asthma it was necessary to make a thorough investigation of the cause.

In regard to the nasal mucous membrane, Dr. Robinson said that in all probability, there were areas of special sensibility at times; but his own observations went to show that these were not constant. The sensibility was probably less circumscribed and more general than had been supposed. Apart from any nasal trouble, there must be a special personal tendency, since there were many cases of nasal disease without any resulting reflex conditions.

Cocaine had been recommended as of special service in making the diagnosis of nasal affections, on account, first, of its anæsthetic properties; and second, because it diminished the congestion of the parts. He was convinced, however, that cocaine was not always a successful anæsthetic, especially after it had been used for some time; and that, while its primary effect was to diminish the vascular supply, subsequently, its action was to increase this. Dr. Robinson spoke particularly of the good effects of carbolic acid in the treatment of nasal disease.

DR. W. H. GOODWILLIE exhibited several wax casts of nasal difficulties in which he had operated. One was a case of deviated septum, with exostosis and hypertrophy of the mucous membrane; in another, there was a complete occlusion of the right nostril; and in another, in which the patient was a sufferer from hay fever, there was hypertrophy of the inferior turbinated bones, with dilatation of the pharyngeal orifice of the eustachian tube. In concluding his remarks, he said that the sickness often complained of in these cases of nasal disease, was generally produced by the fœtid secretions which get into the stomach, causing nausea, and interfering with digestion.

DR. SIMON BARUCH thought that this whole subject was entirely too much neglected by the general practitioner, and yet it was one which concerned him almost as much as the specialist, since, in a large number of these cases, there was no very well-defined nasal trouble. Since the publication of Hach's treatise, he had investigated the matter to a considerable extent, having secured a dispensary appointment for the special purpose of obtaining the opportunity of making rhinoscopic examinations, and learning how to treat nasal difficulties. He would, therefore, avail himself of this occasion to briefly relate six cases in which various reflex symptoms were overcome by the use of nasal treatment. One was a case of reflex cough, two were cases of headache, occurring in young girls, one was a case of asthma, and one was a case of severe pain in the right side of the throat, associated with excessive sneezing. In the latter instance, he found enlargement of the lower turbinated bone of the right side, and other nasal troubles, and the treatment adopted

was that by the galvano-cautery. He had also had a number of unsuccessful cases, but to these he would not refer particularly.

He regretted that in the discussion, nothing had been said in regard to the examination and treatment of this class of cases, as it was highly desirable, he thought, that general practitioners should be able to recognize and treat them before they got so bad that it was necessary to send them to the specialist. One of the most frequent conditions present was hypertrophy of the turbinated bones, and in his own experience, he had usually found that this was easy to recognize, while the application of the galvano-cautery, if a good battery was employed, was an easy and efficient method of treatment.

Dr. Henry Schweig said that he must take exceptions to the last remark of the previous speaker. He believed that there was no procedure which required more care and judgment than the use of the galvano-cautery, so that, as a rule, only an experienced specialist was capable of properly applying it. While its judicious employment was very efficient, he felt convinced that the abuse of this method of treatment was much more common than its intelligent use. In order to accomplish the desired end, it was necessary to destroy the cavernous tissue without injuring the secreting surface of the nasal cavity, and the application should always be made from within outwards, instead of the reverse. Unless the greatest care were used, serious and permanent harm would result to the patient, and one very common error was to use too high a degree of heat, a dull red heat being all that was required.

The President, Dr. A. Jacobi, said he would take this opportunity to make some observations in regard to a point to which attention had never hitherto been called, so far as he was aware. For a considerable number of years, he had noted the influence of catarrh, hypertrophy, and other changes in the naso-pharyngeal cavity upon parts of the nervous system, which had not been alluded to in the present discussion. In a large number of children, there were found what are known as peculiar bad habits, such as winking, frowning, drawing up the nose, twitching of the face, and shrugging of the shoulders. He had ascertained, however, that frequently, these nervous phenomena were not due to bad habits at all, and thought, therefore, that any so-called bad habit should be investigated for the purpose of finding out its origin. These cases were not always simple. What was at first a local chorea minor, sometimes resulted eventually, in a general chorea minor. Some twelve years since, his attention had been called by a work published in Bremen, to the fact that hemicrania is sometimes dependent on chronic pharyngitis and amygdalitis; and since then, he had seen hundreds of cases in which this local chorea was associated with conjunctivitis, rhinitis, pharyngitis, enlarged tonsils. In every case of local chorea, he had found chronic nasal catarrh and chronic pharyngitis, and he had never found the nasal trouble without the pharyngitis. In many instances, it was difficult to determine which of the two had been the original affection.

It was well known, he went on to say, that what is known as the third or pharyngeal tonsil, in the back of the fauces, was frequently the cause of retro-pharyngeal abscess; but he believed that inflammation and enlargement of this pharyngeal tonsil was also a common cause of chronic pharyngitis and chronic rhinitis. This also occasioned migraine and hemicrania, and it was evident, therefore, that the whole naso-pharyngeal mucous membrane was capable of giving rise to these reflex nervous symptoms. It was a point of practical importance to know that very often, the treatment of only one small spot was all that was required in a case.

Recent Literature.

A Manual of Auscultation and Percussion. By Austin Flint, M.D., L.L. D., Professor of Principles and Practice of Medicine, and of Clinical Medicine in the Bellevue Hospital Medical College, etc., etc. Fourth edition, thoroughly revised and enlarged. pp. 280. Philadelphia: Lea Brothers & Co. 1885.

This admirable little book is too well known to require any extended notice. That a third and large edition has been exhausted in little more than two years, is evidence that the book is appreciated. We ourselves have used a former edition as a text-book in teaching the physical examination of the chest, and can consequently speak from personal experience. The new edition is improved by the introduction of some plates taken from "Weil's Typographische Percussion," and plates and diagrams illustrating points in cardiac physiology and pathology. We trust that a fifth edition will be demanded as soon as has been a fourth.

A Chart of Physical Signs of Diseases of the Heart and Respiratory Organs. By R. C. M. Page, M. D., Instructor in the New York Polyclinic, etc. New York. 1885.

This chart is printed on a sheet of heavy paper about a foot square, and folds, like a map, between covers three inches by seven. In parallel columns, are set forth the physical signs of the lungs in health, and in the more common diseases to which these organs are subject. With regard to this portion of the chart, we have no special criticism to make. In that portion dealing with the heart, however, we are struck by the entire absence of any allusion to the modification in the size of the heart, which are so important in differentiating functional from organic disease, and the different forms of valvular disease from one another. The characteristic and unfortunate tendency of the student to magnify the importance of a murmur, perhaps the weakest link in the chain of evidence which convicts a valve, is thus encouraged. This is, in itself, a fatal objection to the chart, which, we trust, students will *not* buy. F. C. S.

Inorganic Chemistry. By Edward Frankland, D.C.L., F.R.S., Professor of Chemistry in the Normal School of Science, London; and Francis R. Japp, F.I.C., Assistant Professor of Chemistry in the Normal School of Science, London. With fifty-one illustrations and a plate. Philadelphia: Lea Brothers & Co. 1885.

This volume is an addition to the already long list of text-books on chemistry. We do not believe there is much demand for an additional book of this character, inasmuch as there are several good works on Chemistry from which one may make a choice. It is gratifying, however, to be able to say that this one will take a place among the best of these. It is very complete, and the information contained in it is accurate. Nearly one-fifth of the book is devoted to theoretical chemistry, the remainder to descriptive inorganic chemistry.

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THE POLICE AND THE PROFESSION.

ON at least two different occasions, now some months ago, the medical profession of Boston were interviewed by police officers in their efforts to ferret out hidden criminals. In one instance a safe had been blown open and for certain reasons, notably the presence of blood in the vicinity, it was supposed that one of the burglars had been seriously injured. As one means of information the physicians of the city were systematically canvassed by the police to find out what information if any they could give upon the subject, the patrolmen being instructed to interview the doctors on their respective beats. Each doctor was asked if he had been called upon to attend any wounded man during the day.

On a previous occasion when a burglar who was thrown out of a window by the owner of the house which he had feloniously entered, and was known to have had his leg broken by the fall, had escaped the police, disappearing while the humane officer who had discovered him was seeking a suitable conveyance in which to remove him, the physicians were canvassed in a similar manner to know what broken legs they had seen during the day.

Now it is a most ingenious and labor-saving way evidently for the police to gain information, but from the physician's standpoint there is at least a question as to the propriety of resorting to this method. Probably no individuals are more law abiding, as a class, or more inclined to assist in the execution of the laws. We doubt if any objection to answering such questions was made by any of the individuals questioned. Perhaps it was a legitimate method of obtaining information in the cases mentioned, but a question arises whether the method once recognized as a legitimate field of detective research might not lead to unpleasant complications.

It cannot be assumed that every criminal has a right to inflict his confidence upon any doctor he may choose to call and thereby bind that doctor to secrecy. But the communications of patients are in general to be looked upon by the physician as inviolable. The laws of Massachusetts do not regard such communications as privileged and it is therefore the more incumbent upon physicians to maintain the public sentiment which would give them a moral support in refusing to divulge the secrets of their patients.

The objection to the proceedings of the police which we have detailed arises not so much from objections to these particular instances as from the fear of cultivating the idea that physicians may be indiscriminately questioned in regard to their patients.

DISEASES COMMON TO ANIMALS AND MEN.

A FUNDAMENTAL likeness of form, of function and of composition runs through the whole animal kingdom. Anatomically, there is no wide difference between the human frame and that of the higher vertebrate animals, and a marked homology of structure binds all in one grand unity of type. It is well known that Galen and other ancient anatomists learned their anatomy by the dissection of apes. Physiologically, there is no more difference than varying habits of living entail; the biological history of man is, with trifling modications, like that of his brute congener. Histologically, all higher animals are constituted on the same type, and chemically, this is also the case; man lives by assimilating the substance and the forces of the animal, or the proximate principles common to both the animal and the vegetable. Psychologically, it may be argued that the animal has a similar mental, as it has a similar nervous constitution, and what is more remarkable is that certain members of the animal kingdom which seem most unlike man in structure, the bees and the ants, resemble him the most in their psychical traits, as the researches of McCook and Sir John Lubbock go to show.

Pathologically, the likeness also holds good. Pathology being morbid physiology, the disturbances of function in animals and in man are notably similar. Like morbid causes produce like symptoms and like effects in both. Hæmorrhages, overwork, insufficient alimentation, impure air, exposure to excessive heat and cold, mineral or vegetable poisons, viruses have similar consequences in man and in the brute. Hence it is that the diseases of men and animals are the same as far as they are subject to like conditions. Among these diseases, may be specified tuberculous phthisis. This disease, especially prevalent among cattle, (*pommelierè* of the French, bovine phthisis of the English), has been witnessed in all the domestic animals. It is a malady which is almost peculiar to civilized life, and the conditions of faulty hygiene and of contagion (for we are warranted in ranking phthisis in a restricted sense, among the contagious diseases), which engender it in man also produce it in the brute.

Bronchial and other affections due to exposure to cold and wet, are witnessed as well among the lower animals as among men, and the same may be said of the whole category of pulmonary, pleuritic, and peri-

cardial affections. Rheumatism is not uncommon in such animals as the dog and horse, often taking on a chronic and deforming character. There are, besides, certain pseudo-rheumatisms, the result of exhaustive toil, meagre diet, excessive copulation — any one or all of these causes combined — which have been observed in both men and animals, and the jaded horse shares the infirmities of joint and muscle from which his jaded master suffers.

Among the diseases of the nervous system which have been seen in the domestic animals, are, besides the organic and inflammatory diseases of which they occasionally partake in common with man, (meningitis, cerebral abscess, myelitis, etc.), epilepsy, chorea and neuralgia. Megrims have been witnessed in apes, and other pains of a distinctively neuralgic type; chorea is quite frequent in pampered dogs and cats; "fitty" dogs, horses, cats, hares and guinea pigs have been seen by almost everybody. Diseases from indigestion are very common in the domestic animals, especially such as lead an indolent life and are much petted. From all forms of syphilitic disease, the more chaste, exemplary brute animal is fortunately exempt.

Pathological states being essentially the same in men and in animals that most resemble man the outward manifestations or symptoms of these states are similar. Two remarkable instances of this similarity are given by Bouley; the gastric vertigo of horses, and the hallucinations which in animals follow the bite of a mad dog. Between the actions of a dumb animal in the presence of an imaginary foe, and defending himself by his hoofs and horns, and a man in prey to delirium, who also sees his imaginary foes, and flees them or attacks them, there is little perceptible difference.

Among the diseases common to men and animals are certain verminous affections. All fish, all birds, quadrupeds and men are liable to be infested by entozoa; there are more than sixty species that prey on mammals and on man. The similarity of pathological conditions to which all are subject is nowhere better shown than in the history of the various species of tænia, and their relation to the human and animal organisms; it is a subject which is now tolerably well understood, owing to the labors of Davaine, Lenckart, Cobbold and others.

The correspondence between human and animal diseases is especially conspicuous when we compare the diseases of the horse — that domestic animal whose pathology we know the best — with those of man. Any recent work on Veterinary Medicine — that of Jennings for instance — reads very much like a treatise on human pathology, and the therapeutics of both do not much differ. There is hardly an ophthalmologist, moreover, who has not at some time been called upon to treat in the equine quadruped the very kind of eye diseases which he sees daily in his private practice, and it is well known among farriers that cataract is a frequent cause of blindness in this noble animal.

The study of comparative pathology has nowhere been productive of such beneficient results as in the department of epidemic, contagious and infectious diseases, but upon this subject, which constitutes the burning question of pathology of the day, we shall not enter.

ADULTERATION OF FOOD AND DRUGS IN NEW YORK.

A meeting of the New York State Board of Health was held at Albany, February 2d, when an elaborate review of the work of the board during the past year, prepared by the late secretary, Dr. Alfred S. Carroll, was read by Assistant Secretary Carman. Prof. S. A. Lattimore, of the University of Rochester, gave an outline of his investigations of the processes commonly employed in the manufacture of dried fruits as affecting their value and wholesomeness as an article of food. He pointed out the magnitude of this industry, especially in the State of New York, and the importance to the public of the conversion of a perishable and bulky article into a highly condensed product, easily and cheaply transported and capable of indefinite preservation; and showed that the examination of a large number of samples gave no ground of apprehension of danger to the public health. The full text of his report will be embodied in the annual report of the board.

Prof. G. C. Caldwell, of Cornell University, made a report of his work in the department of vegetable alkaloids in the examination of drugs, in which it was stated that in various specimens of citrate of iron and quinine examined there was a considerable departure from the official standard. He submitted a list of the samples purchased in various parts of the State, (very few of which were up to the legal standard), the names of their manufacturers, and the percentage of quinine which they contained.

Professor Tucker reported that since November 1st, he had examined fifty-one samples of drugs and thirty-five of vinegar. Among the former were ammonia, benzoic acid, oxalate of cerium, oxide of zinc, magnesia, chloroform, carbonate of ammonia, and iodoform. Of the fifty-one samples, twenty-five are claimed as good, eighteen as fair, seven as inferior, and one sold by error. The samples of vinegar have shown a great diversity in strength. The highest percentage of absolute acetic acid found was 6.2, and the lowest 2.3; the average percentage being 4.14, while the legal standard is 6 per cent.

A resolution was passed to the effect that the persons making sales of drugs or medicines not up to the proper standard should be notified and ordered to cease their sale. In case of their persisting in the practise after this warning, prosecutions will be instituted. A careful supervision of the manufacture and sales of foods and drugs has become a necessity in every modern State. . . . The temptations to carelessness and sophistication in the preparation of these articles are irresistible, and the consequences may be so serious that some restraint upon the liberty of the citizen is unavoidable.

MEDICAL NOTES.

— "Born to Mr. and Mrs. Martin Haggerty, December 30th, 1885, a daughter, weight eight and one-half pounds. Mother and child doing finely, thanks to Dr. ——, who is destined to become one of our leading physicians." — *Herkimer (N. Y.) Citizen.*

— A despatch to the *Boston Herald*, under date of Montreal, Que., Jan 21, 1886, says that Dr. Trimble, superintendent of the health department, has sent in his resignation to the local board, on the ground that there is not a single case of small-pox in the city, and, so far as known, in the suburbs. There have been no deaths in the latter for some days.

— It is interesting to note that in the nine Prussian Universities during the session 1884–85, 569 doctors and candidates in medicine were examined for the license to practise (*Venia Practicandi*). Of these, 120 presented themselves for the second time, the remaining 449 being new candidates. More than 75 per cent. passed (430), four of these with the mark "very good," 270 with "good," and 156 "satisfactory."

— Another medical journalist has died, Dr. Amédée Dechambre. The death took place from apoplexy, on the 4th ult., in the seventy-fifth year of his age. He was the editor of the *Gazette Hebdomadaire*, and was for many years connected with the Parisian medical press, of which he was the *doyen*. He was also member of the Academy of Medicine, physician to the Council of State, and officer of the Legion of Honor.

—The *Indian Medical Gazette* of December, contains a short account, taken from a Bombay newspaper, of the death of four prisoners in the hospital of the common jail of Bombay, by poisoning. They had been ordered sulphate of cinchonine, but the hospital assistant, Vithul Lingoo, administered strychnine by mistake Death was almost instantaneous. A fifth prisoner who had taken a smaller dose became seriously ill, but his recovery was considered probable.

— An esteemed daily contemporary contains, among its special daily telegraphic hydrophobia telegrams, the following, which is mildly surprising, even after the abundant exercise of the imagination, which the last few weeks of journalistic science have produced. We suppress merely the name of the physician:

ALBANY, N. Y., February 2, 1886. A special from Cohoes says: "George Waterhouse, fourteen years of age, some six years ago, was bitten by a dog in Lansingburg. For the past week, the boy has shown signs of hydrophobia. His condition became alarming, and Dr. ——, of Troy, was called, and administered all the medicines usually used in such cases, but to-night it was deemed advisable to smother him."

— The artists and sculptors of London seem likely to have a good time just now, in perpetuating the outward presentment of some of the leading members of the medical profession. Beside the bust of Sir James Paget, by Boehm, which is commissioned for the Royal College of Surgeons, the *British Medical Journal* hears of projects on foot for testimonial busts or portraits of Sir Henry Pitman, Sir Henry Acland, Professor Humphry, and Professor Redwood.

— A London paper tells of a farmer who picked up a vaccine point which had been left on an apothecary's counter and picked his teeth with it, pricking his gums and effectually vaccinating himself.

— The United States Consul at Hiogo, Japan, reports, that during the month of October last, 1208 cases, and 628 deaths from cholera, were reported in Osaka vicinity, and in Hiogo and Kobe, there were 354 cases, and 227 deaths from cholera, during the same period. During the month of November, there were 58 cases, and 47 deaths from cholera. In the Province of Huelva, the extreme south-western province of Spain, there were, from November 6 to 26, 42 deaths from cholera. In France, the cholera was still prevalent in the Department of Finistere, on December 7, the date of the last consular report. During the twelve days, from November 26 to December 7, inclusive, there were 160 cases, and 62 deaths.

— The *Birmingham Medical Review* is responsible for the following anecdotes of two eminent Scotchmen: The late Professor Syme, of Edinburgh, was not very fond of medical visitors to his wards, in the Royal Infirmary, and did not hesitate to hand them over to his house-surgeon, with little ceremony. Syme was very proud of the number of times he had ligatured the femoral artery. At his death, we believe, he had performed this operation seventy-five times, in all. One day, when showing a Frenchman round his wards, he had occasion to draw his attention to a recent case of this kind, and asked his visitor, with pardonable pride, how many times he thought he had tied that vessel. "Oh! t'ousands!" said the Frenchman, an answer which very speedily sent Syme to his carriage, in no small dudgeon.

— The late Professor Laycock was very fond of drawing attention to hereditary peculiarities. One time, in the middle of a lengthened exposition of the features, in common, of a mother and child, the woman, perhaps, a little uneasy, stopped him, saying, "A weel! I'm no the bairn's mither, I'm just his step-mither."

— Dr. Heywood Smith, who figured in the trial of Editor Stead, of the *Pall-Mall Gazette*, as the physician who examined the girl, Eliza Armstrong, has been reprimanded by the Royal College of Physicians. Dr. Smith sent explanations, and an apology to the College, and the President and Censors in their report upon these communications recommended the adoption of a resolution, that "the College, while acquitting him of deliberate intent to do evil, desires to put on record an opinion that he has committed a grievous error in connection with the Armstrong abduction case, which has brought discredit on himself and the profession to which he belongs. The College, therefore, regards his conduct as deserving the severest censure, and requests the President to express the views of the College, and to reprimand him accordingly." The President accordingly addressed to Dr. Heywood Smith a severe reprimand, and warned him to be careful as to his conduct in the future.

— It is said that the teeth of all children attending the communal schools in Brussels are examined by order of the State, and during the year 1882–83, no fewer than 1,250 pupils required the services of the dentists. The managers of the North Surrey District School, Anerley, England, have appointed a dentist to attend weekly, in order that the children may have proper attention paid to their teeth.

— There have been recently abundant subscriptions to Lady Dufferin's Fund for providing the women of India with female medical aid.

— We learn from the *Lancet* that at the Birmingham Police Court, recently, summonses were taken out by the Inland Revenue against a shopkeeper for selling, and against a firm of manufacturers for supplying, certain drinks, under the name of temperance wines, which were alleged to be intoxicating. An analyst to Somerset House gave evidence that the port wine was a fermented liquid containing 17.4 per cent. of proof spirit; the sherry was a liquid of the same description, and contained 19.6 per cent. of proof spirit: thus showing that a large proportion of alcohol was hidden under the seductive title with which the bottles were labelled. Another compound of a similar kind was sold under the name of "hot Tom," the purpose of which was to give a spiced flavor when added to beer. It was suggested for the defence that fermentation must have occurred after the wines had been bottled; but the absence of carbonic acid in any quantity, proved that this could not have been so. The salesman was fined 1*s.* and costs, the manufacturers £10 — a penalty which, our contemporary thinks, will probably stop the sale of this particular form of refreshment, but which will be of more service in calling the attention of teetotalers to the nature of the trade in powerful stimulants sold under tempting and unsuspecting names.

Miscellany.

A CASE OF ULCERATIVE ENDOCARDITIS.

PROFESSOR PURSER made a communication to the Academy of Medicine, in Ireland, (*Dublin Medical Journal*, January, 1886), upon a case of ulcerative endocarditis, the second he had seen. The patient, a man aged twenty-two, had had rheumatic fever three or four years previously, and had lately been very intemperate as to strong drink. On admission to hospital, he was delirious, very violent, temperature 104°, pulse regular and strong, complained of pain in his head and ears. His heart and lungs were carefully examined and found normal. The only lesion visible on his person was a small, recent scar on one knuckle, surrounded by loosened epidermis, as if a pustule had been present, which had burst before admission. There was no glandular enlargement in the arm, nor anything abnormal in its veins or lymphatics. On October 24th, a careful examination could detect nothing abnormal in either heart or lungs, but on the next day, Professor Purser discoverd a loud systolic valvular bruit, which had certainly not been present on the 24th. This determined him to the diagnosis of ulcerative endocarditis — a diagnosis which the subsequent *post-mortem* completely established. The delirium and fever continued without much intermission till his death, which was preceded by œdema of the lungs, the bruit continuing all through. At the autopsy, hæmorrhages were found in the brain, lungs, spleen, kidneys, intestines, and the retinæ. The heart and its valves were practically healthy, with the exception of the mitral valve, whose posterior curtain was ulcerated and completely disorganized, the surface of the ulcer being ragged, and covered with a diphtheritic-like deposit.

The microscope showed that this diphtheritic deposit, as well as the innumerable small hæmorrhages in the various organs (except those in the lungs, in which no micrococci could be detected), were caused by masses of micrococci, many beautiful specimens being shown at the meeting, where the vessels were visibly plugged by micrococci. Professor Purser could find no other door of entrance into the body for the micrococci in this case than the small patch of abrasion on the knuckle. In the former case he had seen, there had been suppuration of one of the vesiculæ seminales.

A NEW SOURCE OF QUININE.

IT is not generally known that the present cheapness of quinine is, in great part, due to the discovery of a quinine-yielding bark in a plant, which is not one of the cinchonas. We learn from the *Indian Medical Gazette* that *Cuprea* bark contains quinine, and as the plants grow readily near the coast, it can be cultivated and the bark exported at very much less cost than cinchona bark, which has to be carried from the hills to long distances at great expense. There are several varieties of *Cuprea* bark. "New Remedies," No. 8, p. 41, gives the following particulars regarding two of these varieties. *Remijia pedunculata* contains quinine and homoquinine, while *Remijia purdieana* contains little or no quinine, but an alkaloid, which has been named cinchona by its discoverer, M. Arnaud. Homoquinine is a double alkaloid, as shown by Messrs. Paol and Counley (*Pharm. Journ.*, March 7th, 1885, p. 730). It can be split up into quinine, and another alkaloid known as *Cupreine*, in the proportions of about one of the former to two of the latter. Homoquinine forms a sulphate less soluble than that of sulphate of quinine, which apparently shows that it has entered into the commercial quinine, made from *Cuprea* bark, until a short time ago, when a mode of separating it from quinine, was discovered.

Dr. King, the Superintendent of the Bengal Government, Cinchona Plantations, in his Annual Report for 1884–1885, says that *Cuprea* bark has been poured into the London market in very large quantities. It is not very rich in quinine, but its quinine is easily extracted; and, being produced near the coast, it has been possible to put this bark upon the home market at a small cost, and thus, to a large extent, to oust the cinchona barks which had been exclusively used in quinine manufacture. Some seed obtained from South America was planted in Sikkim by Dr. King, but although forty seedlings were raised, they were not very vigorous, and it is thought that the climate of Sikkim is not well suited to them.

CITY AND SUBURBAN RAPID TRANSIT FROM A SANITARY POINT OF VIEW.

THE *Sanitary Engineer*, in its issue for January 28, discusses this subject. After mentioning the desiderata for passenger traffic, as comfort for the patrons, rapidity of transit, a minimum of annoyance to non-travellers, and low cost, it condemns all existing methods which involve the use of land which is employed for other purposes, as public streets, and of elevated and tunnel roads. It says: "It is certain that the requirements of rapid transit are not fulfilled by railroads on the surface of the ground, on which heavy motors, noisy in their operation, run at high speed, as they do in the suburbs of Boston, New York and Philadelphia. They are not fulfilled by passenger-cars, heated by coal-stoves, and swept by a draught of cold air from a tilting transom over the end door, as is the barbarous custom on the Pennsylvania and Hudson River Railroads. They are not fulfilled by iron-trestles built over public streets and too flimsily constructed to carry motors of sufficient power to draw the necessary loads, and yet carrying machines which are so noisy in their operation as to be a frightful nuisance. Still less can the necessary condition of comfort and health be fulfilled by any subterranean structure, such as is suggested for Broadway. In London, where underground roads have been built and operated for several years, with all the efforts of the ablest men, theoretical and practical, to attain perfection, the testimony of the builders and managers of the roads is very strong to the effect that all their efforts to secure good ventilation have proved unsuccessful. In New York the discomfort of underground travel is abundantly proven to the thousands who pass daily through the tunnels and covered ways of the Fourth Avenue road from Thirty-fourth to Forty-first Streets, and from Fiftieth to Ninety-sixth Streets."

It continues: "We believe that the day is rapidly approaching when large cities will be traversed by viaducts, constructed on property exclusively dedicated to that purpose, and on which trains of cars will be propelled at high speed through the open air by nearly noiseless motors, two tracks being devoted to long distance and two to short distance travel. . . .

"What the advance of science may produce in the way of motive power is, of course, unknown, but in the present state of mechanical science the most probable solution of the problem of rapid transit for cities lies in elevated viaducts for trunk lines of fast travel with compressed air or electric motors, cable tramways for lines concentrating at centres of transfer to the trunk lines, and horse or compressed-air tramways for collectors in outlying, sparsely settled districts. The health and safety of the public, which are the 'supreme law,' demand the prohibition of grade crossings where rapid motors run, and the keeping of the passengers above ground at any cost."

Correspondence.

LETTER FROM VIENNA.

VIENNA, December 8, 1885.

MR. EDITOR, — As many young physicians are undecided as to their plan of study when they leave for Europe some may be interested to read about the experiences of a fellow-student from America and myself on our arrival here.

We decided to spend several months in the study of German before attempting to do much work in medicine, and therefore on the first of March settled down in Würzburg.

Würzburg is a quiet little city in the Northern part of Bavaria, once a place of great importance, but now known only for the University and its choice "Stein-wein." It is full of quaint old houses, and its narrow winding streets afford an ever varying pleasure to one interested in the architecture of the sixteenth or seventeenth centuries. On the site of the old wall and moat is now a charming park, bordered by fine new houses. The environs are pretty, giving an opportunity for many pleasant walks.

Bavaria is not a good place to study classical "Hoch Deutsch," as the pronunciation is bad, but for a medical man it is better to learn the pronunciation and dialect of South Germany, rather than the pure German of Hannover, as he is then better able to understand the lectures of Vienna. We have found no difficulty in understanding the so-called Vienna dialect, and such is not the usual experience of men who have studied in North Germany.

There are very few English in Würzburg, and none whom a medical student would be apt to meet. We had no difficulty in finding good German teachers.

As to the medical advantages there, they are good; they have a hospital of some six hundred beds, fine university buildings and many professors of great celebrity. The lectures of the summer Semester, began about the first of May, and by that time we were able to profit by them both from a medical and from a German point of view. Rindfleisch is the most charming lecturer I ever heard: he lectures to his class as if he were holding an animated conversation with a knot of friends.

On the first of July I went to Prague to attend a course given by the first assistant in the lying-in hospital there. The course is essentially a touch course, but aside from that the students are invited to make the daily visit in the wards; students are not allowed to operate. I will give a short sketch of their methods, some of which were new to me. When the labor first comes on, before examination, the woman is given a vaginal douche of corrosive sublimate (1–2000). If the case runs a normal course, this is the first, last and only douche given.

The chief exceptions to this rule are the following: —

(1) When gonorrhœa is present.

(2) If the lochia become foul. In such cases a douche of three per cent. carbolic acid is given twice daily.

(3) If the lochia become very abundant in the latter part of the second week. In this case a douche of alum and acetate of lead is used. The advantages claimed for this method are essentially three. The avoidance of possible infection from unclean instruments. The prevention of admission of atmospheric air. The smaller amount of the lochia.

During the puerperal period the external genitals are washed twice daily with corrosive sublimate (1–2000) and all abrasions *lightly* dusted with iodoform. The napkins are sublimated absorbent cotton.

As to their results, in 774 deliveries five women died: one of double pneumonia; two of rupture of the uterus; one of cerebral hæmorrhage; one of acute endometritis and acute nephritis.

In Munich, Berlin and Vienna the vaginal douche has been abandoned in all normal puerperal cases. Schroeder, in the last edition of his work, does not even mention the use of a vaginal douche in his chapter on the care of puerperal women. In Prague the corrosive sublimate (1–2000) is used as the antiseptic for the hands of operators.

During the last year the policy of non-interference in the processes of nature has been applied in the care of the children. Their mouths are never washed out; since the introduction of this method thrush has become as rare as it formerly was frequent. I saw three cases in Prague; they all occurred in the wards of a new nurse; when the assistant complained, she said, "I assure you that I wash

the mouths with the greatest care every time the babies suck."

As yet Professor Breisky has not published the results of this expectant method of treatment.

Yours very truly, HENRY JACKSON, M.D.

HUMANIZED VIRUS, ONCE MORE.

OFFICE SUPERINTENDENT OF HEALTH,
PROVIDENCE, JAN. 30, 1886.

MR. EDITOR,— Once more I ask permission to use your columns to reply to Dr. Martin. His last communication is mainly a reiteration of his former assertion that we are not using long humanized virus in Providence. This statement he makes simply on the ground that the symptoms produced by this virus are not those which he thinks ought to be produced by long humanized virus and are not like those produced by the long humanized virus in use in England. But the question is not one of theory, or of English practice, but one of fact as to what virus we use in Providence. In this office are books in which a record is kept of all vaccinations done by the department. In these books the pedigree of our virus can be traced back continuously from person to person to February 29, 1868. During this period there were two hundred and seventeen transmissions. This record was made by Drs. Chas. H. Leonard and Edwin M. Snow, physicians of high repute and unquestionable integrity. Every one will admit that this is sufficient to permit the application of the adjectives "long humanized" to this virus. But furthermore, perfect reliance may be placed upon the statement of Dr. J. W. C. Ely, who was public vaccinator from 1856 to 1868, that during this time the virus was propagated in a continuous series without being renewed from the cow. Dr. Martin very kindly assumes that I am merely in error in this matter. But there can be no ground for mistake; either this virus has a human pedigree of almost thirty years, or else I and the gentlemen referred to have deliberately falsified the record.

I have no doubt that bovine virus is perfectly competent to protect against variola. All I claim is that the stock of humanized virus maintained in this city is equally protective. There are certain advantages in the use of bovine virus, provided it is properly prepared. The danger comes from making it an article of commerce. I believe that it may be a wise procedure for Health Officers, either municipal or state, to prepare and distribute this virus, or at least to strictly supervise its preparation. We thus far have obtained better results with our own humanized virus than with any bovine virus which we could purchase. Certainly the confidence of the medical profession in the producers of bovine virus is not strengthened, when one of these producers, who is inclined to claim for himself somewhat of a monopoly of scientific knowledge and accuracy, coolly repudiates without any investigation, certain facts which do not coincide with the assumed theories upon which his business so largely depends.

I trust that the written proof which I am ready to present to any one interested will be sufficient to close this controversy which was begun by the unfounded assertions and gratuitous assumptions of Dr. Martin.

Yours truly, CHARLES V. CHAPIN, M.D.

[The Editor begs to express the hope that this question may be considered closed with the present communication. ED.]

REPORTED MORTALITY FOR THE WEEK ENDING JANUARY 30, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Lung Diseases.	Scarlet Fever.	Typhoid Fever.	Diphtheria and Croup.
New York	1,340,114	652	266	17.60	14.24	1.60	.16	8.96
Philadelphia	927,995	368	105	14.58	10.26	1.62	2.16	8.10
Brooklyn	644,526	—	—	—	—	—	—	—
Chicago	632,100	—	—	—	—	—	—	—
Boston	390,406	164	44	13.42	17.08	1.80	1.21	4.88
St. Louis	408,520	—	—	—	—	—	—	—
Baltimore	400,000	150	51	13.86	16.50	1.32	2.64	4.62
Cincinnati	272,400	120	37	14.19	14.19	3.32	4.16	2.44
New Orleans	234,000	124	32	12.96	16.20	—	.81	4.88
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	90	33	7.77	16.66	2.33	1.44	—
Pittsburgh	180,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	48	17	14.56	12.48	2.08	2.08	6.24
New Haven	62,882	—	—	—	—	—	—	—
Charleston	52,286	37	9	5.42	2.71	—	2.71	—
Nashville	54,400	21	3	9.52	19.04	—	—	—
Worcester	68,383	14	7	14.28	14.28	—	—	14.28
Lowell	64,051	18	5	5.55	5.55	—	5.55	—
Cambridge	59,660	21	3	9.52	9.52	—	—	—
Fall River	56,863	23	5	8.70	13.05	—	4.35	—
Lynn	45,861	16	2	—	12.50	—	—	—
Lawrence	38,825	9	3	11.11	22.22	—	—	11.11
Springfield	37,577	—	—	—	—	—	—	—
New Bedford	33,393	8	2	—	12.50	—	—	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	9	—	—	—	—	—	—
Holyoke	27,894	13	5	15.38	23.07	—	—	7.69
Chelsea	25,709	19	4	5.26	15.78	5.26	—	—
Taunton	23,674	7	3	72.40	14.28	—	14.28	—
Haverhill	21,795	6	2	—	33.33	—	—	—
Gloucester	21,713	8	5	25.00	12.50	—	—	12.50
Brockton	20,783	12	2	25.00	25.00	8.33	—	8.33
Newton	19,759	1	—	—	—	—	—	—
Malden	16,407	8	2	12.50	—	—	—	—
Fitchburg	15,375	5	1	—	20.00	—	—	—
Waltham	14,609	5	—	—	—	—	—	—
Newburyport	13,716	5	1	—	20.00	—	—	—
Northampton	12,896	1	—	—	—	—	—	—
87 Massachusetts Towns	—	37	7	5.40	16.20	—	2.70	2.70

Deaths reported 2,019: under five years of age 656; principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 284, lung diseases 321, consumption 303, diphtheria and croup 124, scarlet fever 31, typhoid fever 25, diarrhœal diseases 36, whooping-cough 24, cerebro-spinal meningitis 16, malarial fever 11, puerperal fever seven, erysipelas five, measles four, small-pox one. From diarrhœal diseases, New York 13, Cincinnati five, Boston four, Philadelphia, Baltimore and New Orleans three each, Cambridge two, Providence, Charleston and Malden one each. From whooping-cough, New York 17, District of Columbia two, Philadelphia, Cincinnati and Providence one each. From cerebro-spinal meningitis, New York, Philadelphia, Boston, Cincinnati, Taunton two each. From malarial fever, New York five, New Orleans three, Philadelphia, Boston and Baltimore one each. From puerperal fever, Philadelphia two, New York, Baltimore, Cincinnati, Taunton and Brockton one each. From measles, Baltimore two, New York and Philadelphia one each. From small-pox New York one.

In 107 cities and towns of Massachusetts, with a population of 1,278,411 (population of the State 1,941,465), the total death-rate for the week was 16.59 against 18.23 and 17.16 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending January 16th the death-rate was 23.8. Deaths reported 4,149: infants under one year of age 935; acute diseases of the respiratory organs (London) 534, whooping-cough 156, measles 111, scarlet fever 46, fever 41, diphtheria 39, diarrhœal 37, small-pox (Liverpool two, London, Manchester and Cardiff one each) five.

The death-rates ranged from 17.2 in Sunderland to 32.7 in Halifax; Birkenhead 19.1; Birmingham 23.4; Bradford 21.2; Hull 17.2; Leeds 24.2; Leicester 20.9; London 23.9; Liverpool 23.8; Manchester 30.6; Nottingham 26.1; Sheffield 18.6.

In Edinburgh 22.1; Glasgow 26.6; Dublin 33.3.

For the week ending January 16th in the Swiss towns, there were 47 deaths from consumption, lung diseases 41, diarrhœal diseases 11, diphtheria and croup seven, whooping-cough four, erysipelas one.

The death-rates were: at Geneva 25.2; Basle 18.5; Berne 24.6.

The meteorological record for week ending January 30, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps: —

Week ending Saturday, Jan. 30, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday, . . 24	30.509	6.4	8.8	0.1	58.0	85.0	82.0	75.0	N.	N.	N.	14	16	16	O.	N.	N.	—	—
Monday, . . 25	30.342	18.3	27.5	7.2	91.0	91.0	100.0	94.0	N.	N.	N.	13	9	10	N.	N.	L.	—	—
Tuesday, . . 26	30.162	32.7	40.8	22.7	94.0	88.0	77.0	86.3	N.W.	N.W.	N.E.	8	4	10	O.	E.	O.	—	—
Wednes., . 27	30.190	29.3	35.0	24.6	70.0	90.0	86.0	82.0	N.E.	E.	N.E.	21	18	14	O.	T.	O.	—	—
Thursday, 28	29.804	32.9	34.4	27.3	89.0	100.0	100.0	96.3	N.E.	N.E.	N.	12	22	17	R.	R.	R.	—	—
Friday, . . 29	29.446	32.2	33.6	29.2	93.0	88.0	92.0	91.0	N.E.	N.E.	N.W.	15	14	9	O.	R.	L.	—	—
Saturday, 30	29.411	34.2	37.4	30.5	90.0	84.0	95.0	89.7	S.W.	N.	N.W.	7	10	14	L.	O.	N.	97.0	3.93
Mean, the Week.	29.981	26.6	40.8	-0.1				87.8											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JANUARY 30, 1886, TO FEBRUARY 5, 1886.

VICKERY, RICHARD S., surgeon and major. Assigned to duty in connection with the Army and Navy Hospital at Hot Springs, Ark. S. O. 24, A. G. O., January 29, 1886.

CHAPIN, A. R., first lieutenant and assistant surgeon. Relieved from temporary duty at Fort Robinson, Neb., and ordered to resume his proper station, Ft. Laramie, Wyo. S. O. No. 11, Department of the Platte, February 2, 1886.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING FEBRUARY 6, 1886.

BABIN, H. J., surgeon. Ordered to United States Steamship "Vandalia."

DIXON, W. S., surgeon. Ordered to Marine Rendezvous, New York, to relieve Surgeon Babin.

WHITING, ROBERT, passed assistant surgeon. Ordered to United States Steamship "Vandalia."

SOCIETY NOTICE.

SUFFOLK DISTRICT MEDICAL SOCIETY. OBSTETRIC AND GYNÆCOLOGICAL SECTION. — There will be a meeting of this Section at the large Medical Library Room, 19 Boylston Place, on Wednesday evening, February 17th, at 8 o'clock. Communications: Dr. W. H. Baker, "Report of Ten Cases of Uterine Cancer where a Radical Operation was done Four Years and More ago." Dr. A. P. Weeks, "Acute Inversion of the Uterus." Refreshments after the meeting.

JAMES R. CHADWICK, M.D., *Chairman.*
ROBERT B. DIXON, M.D., *Secretary.*

APPOINTMENTS AT THE BOSTON DISPENSARY.

At the January meeting of the managers of the Boston Dispensary Dr. George G. Hayward was appointed physician to the department of diseases of women; Dr. Edward W. Warren physician to the department for diseases of the throat and nose; and Drs. Hayward W. Cushing and Gardner W. Allen physicians to the department for diseases of the genito-urinary system.

An orthopædic department was established and placed in charge of Drs. Royal Whitman and William M. Conant.

Drs. Herbert B. Whitney, Howard M. Buck, and George E. Richards were appointed district physicians.

BOOKS AND PAMPHLETS RECEIVED.

The Climatic Treatment of Disease, Western North Carolina as a Health Resort. By Henry O. Marcy, A.M., M.D. (Reprint from the Journal of the American Medical Association, December 26, 1885.)

Hunterian Lectures on some of the Injuries and Diseases of the Neck and Head, the Genito-Urinary Organs and the Rectum. Delivered before the Royal College of Surgeons of England, June, 1885. By Edward Lund, F.R.C.S. London: J. & A. Churchill. 1886.

Rome in Winter and the Tuscan Hills in Summer. A Contribution to the Climate of Italy. By David Young, M.D., etc. London: H. K. Lewis. 1886.

Medico-Chirurgical Transactions. Published by the Royal Medical and Chirurgical Society of London. Second Series, Volume the Fiftieth. London: Longmans, Green & Co. 1885.

Bright's Disease of the Kidneys. By R. C. M. Page, M.D., Instructor in Diseases of the Heart and Lungs and General Medicine, New York Polyclinic. (Reprint from Medical Record, November 21 and 28, 1885.)

Circulars of Information of the Bureau of Education. No. 3. 1885. A Review of the Reports of the Royal Commissioners of Technical Education, etc. By the late Charles O. Thompson, A.M. Ph. D. Washington: Government Printing Office, 1885.

The Principles and Practice of Medicine. By Charles Hilton Fagge, M.D., F.R.C.P., etc. Including a Section on Cutaneous Diseases by P. H. Pye-Smith, M.D. Chapters on Cardiac Diseases by Samuel Wilks, M.D., and complete Indexes by Robert Edmund Carrington, M.D. Vol. II. Philadelphia: P. Blakiston, Son & Co. 1886.

Seventh Annual Report of the State Board of Health of Illinois, with an Appendix. Springfield, Ill. H. W. Rokker, State Printer and Binder. 1885.

Original Articles.

CASES OF EPILEPSY TREATED WITH BORAX.[1]

BY CHARLES F. FOLSOM, M.D.,

Visiting Physician for Nervous Diseases, Boston City Hospital.

ALTHOUGH there are many remedies suggested for the treatment of epilepsy, the number from which any permanent benefit is derived is exceedingly small — so small, that probably few physicians think of prescribing anything but some of the preparations of the bromides, unless they have already been tried and failed. It is true that some benefit is the usual result of the use of the bromides, often marked improvement, sometimes cures. But their use is attended with disadvantages, if given in sufficient quantity to control the attacks, in the vast majority of cases; and with certain individuals, these common uncomfortable symptoms are so excessive as to make the bromides, when taken for a long time, a greater source of annoyance than the convulsions themselves. There are some cases, also, in which no benefit is derived from the bromides in any possible combination of their salts, or whether with ergot, belladonna, ammonia, and other drugs, or alone; it now and then happens that they make the disease worse, and exceptionally, they give rise to maniacal symptoms. It is not seldom that they cannot be used.

Their common effect is to impair appetite, interfere with digestion, and produce a certain amount of mental and physical sluggishness, which may amount to a settled gloom and indisposition to effort, and which is generally attended with some loss of flesh, even if not great, unless some tonics are given, or special efforts are made to keep up the general health; and, if given to the extent of controlling the convulsions, the bromidism produced is often so disagreeable to the patient, that other remedies must be sought for. The list of drugs which have been tried in such cases is long. To-night, I desire to call attention to a single one, borax, which has been prescribed in a few cases at the Hospital for Epileptics and Paralytics in London, and which I have used, more or less, for three years.

CASE I. Miss ——, age, twenty, to whom I was called about midnight of May 6th, 1883, with the statement that she had, thus far in the night, had three violent epileptic attacks. She was of fine figure and good general health, without ascertainable hereditary predisposition to disease. She had the usual diseases of childhood in mild form, and had given great attention to her health, so that her appearance generally, if not under the influence of drugs, would be that of perfect health. She had never had convulsions in childhood or infancy. At the age of nine, she caught her foot in such a way as to be suspended head downwards for a time, the approximate length of which I could not learn, until her cries brought some workmen to her relief. She had soon after, that is, in the middle of the summer, a few attacks of petit mal, extremely slight, of which she was aware, and during which she did not entirely lose consciousness. In the following winter, she had epileptic convulsions, for which her parents consulted Dr. Brown-Sequard, who gave her his usual prescription of the bromides, probably with potassium iodide and carbonate of ammonia. She improved for a number of months, although the convulsions did not cease, until December 8th, 1874, when she had not had an attack for five months. She had others on the 23d and 27th of the same month. Although she was quite under the influence of the drug, the convulsions became frequent, and its use was finally abandoned for the time being. Since that time, she has been under the care of many physicians, among whose names I mention those of Dr. Webber and Dr. J. J. Putnam, of this city, in order to give assurance that every therapeutic measure offering any probability of success had been faithfully tried. The bromides and oxide of zinc were the only drugs which materially diminished the frequency of the attacks, but both had to be used in such quantity as to produce a very distressing debility, with only the result of making the number of attacks fewer, but not of causing them to cease.

The number of epileptic convulsions for the several years was as follows: 1875, twenty-seven; 1876, eighteen; 1877, ten; 1878, eleven; 1879, eight; 1880, twenty-seven; 1881, ten; 1882, seven; in 1883, the first attack was on the 23d of January. In February, having thought that they had exhausted the resources of the medical profession, the parents got some advertised medicine, Turner's, from New York, and began giving it, with the result that there was no convulsions that month. In March, there were two, in April, three; in May, one, on the first day of the month, and three on the sixth, when I was called to see the patient. So far as known, no attacks occurred during sleep.

I found, on analysis of the drug by the State Board of Health, that my patient had been taking a large quantity daily, of bromide of potassium. She was so bromidized as to stagger in walking, to have hallucinations of sight, and to be so dull mentally as almost to suggest primary dementia.

The improvement of the general health seemed the first and imperative indication, so that I stopped all medicines and sent her to the seashore, with the result that there were twenty-five attacks in the next seventy-eight days. At the end of that time, namely, August 1st, with cod liver oil, malt, and fresh air, she had regained the appearance of health, and I began giving her ten grains of borax, three times a day. There was no attack until the 15th of the month, when I increased the quantity to fifteen grains. The only attacks in 1884 were two, one May 10th, and one December 22d. In 1885, there were three, namely, in March 28th, April 19th, and September 5th, when the borax was increased to twenty grains, three times a day. Thus far, there have been two this year, but I think that they were due to a serious disorder of the digestive organs, and that they might have been prevented had I been called in time.

So far as the convulsions are concerned, the use of the borax has been attended with success far beyond any other drug. In other ways, however, the improvement has been much greater. The attacks of petit mal, which formerly were, at times, incessant, frequently counting up several dozen a day and twenty in a single hour, are now very seldom a source of annoyance, and never frequent. But most of all, the general health is perfect, and the young lady has been able, for the first time in a dozen years, to enter into the pleasures and duties of social life pretty much as she would like, with certain precautions which are not onerous, and her old-time cheerfulness and bloom have returned.

[1] Read before the Boston Society for Medical Improvement, February 8, 1886.

The only annoyance from the use of the borax in this case, has been a dry, scaly eruption, giving rise to a great deal of itching, but which disappeared after several week's use of arsenic internally, and oxine of zinc ointment, with vaseline, externally. Aromatic tinctures given with it prevented the nausea, which immediately followed taking it with only water.

CASE II. March 28th, 1884. Miss ——, age, twenty-six, without hereditary predisposition to disease. In infancy, the left side was accidentally observed to have become of less power than the right. Just when this happened, and under what circumstances, I could not learn, and evidence of it is still seen in the lessened size of left leg, trunk, and arm, noticeable on measurement and inspection, but not observed casually.

In the fourth year of age, there were several convulsions, then attributed to teething; also one very mild when ten years old, and another more severe in 1871, when menstruation began. Soon after, there were attacks of petit mal, of which there was no record until 1873, and since then, of course, some have failed to be observed, but all the attacks attended with decided loss of consciousness are thought to have been seen and noted as in the following table, the number of attacks of petit mal being indicated in roman figures, the others in italic.

Month.	1872	1873	1874	1875	1876	1877	1878	1879	1880	1881	1882	1883	1884	1885	1886	Totals.
January,	– –	– –	– –	– 2	– 7	– 12	I 14	– 2	– 4	I 19	I 10	– 8	– 12	– 9	– 12	3 111 99
February,	– –	– –	I –	– 1	– 8	– 13	I 15	– 5	– –	– 7	– 10	I 11	– 7	– 10	– –	3 87
March,	– –	– –	– 1	– 1	– 15	I 11	– 10	– 3	– 7	– 20	– 9	– 11	I 14	– 12	– –	2 114
April,	– –	– –	– –	2 –	2 4	– 15	– 3	– 4	– 2	– 11	I 16	– 8	I 12	– 13	– –	4 90
May,	– –	I –	– 1	– –	– 13	– 16	– 13	I 11	– 2	– 2	– 12	– 10	– 16	– 10	– –	2 106
June,	– –	– –	– –	– 4	– 7	– 13	– 6	– 5	– 15	I 14	– 18	– 12	– 12	– 14	– –	1 120
July,	– –	– –	– –	– 4	– 6	– 17	I 10	– 1	– 9	– 2	– 16	– 8	– 15	– 9	– –	1 97
August,	I –	I 1	– –	– –	– 2	– 11	– 7	– 1	– 5	– 5	– 7	4 –	3 8	I 12	– –	10 66
September	– –	– –	– –	– 12	– 8	– 15	– 5	4 2	I 6	I 13	– 8	– 16	– 10	– 8	– –	6 103
October,	2 –	I –	– –	– 8	– 7	– 11	– 11	– 11	– 23	– 11	– 7	– 15	– 8	– 10	– –	3 122
November,	– –	– –	– –	– 7	– 7	– 7	– 4	– 12	2 12	– 9	I 5	2 18	– 12	I 9	– –	6 102
December,	– –	– –	– 3	– 12	– 18	– 13	– 3	– 16	I 8	I 13	– 6	– 12	– 7	– 10	– –	2 121
	3 –	3 1	1 5	– 53	2 102	1 154	3 101	5 73	4 93	3 126	3 124	7 136	5 133	2 126	– 12	

The effect of the bromides may be seen in the reduced number of severe attacks for a few years after 1873, but the attacks of petit mal rapidly increased, and, after 1877, the others began to increase somewhat, although the patient was constantly bromidized to a slight extent. In August, 1883, the bromides were stopped for about three weeks, with four convulsions in that time, as had happened in giving them up twice before. The patient, at the close of March, 1884, had a very severe convulsion, and was, at that time, thin, pale, dull, not interested in anything, inclined to be silent and gloomy, with periods lasting several days at a time, during which she was much depressed, and frequently weeping. She had every advantage of travel, frequent change of scene, driving, etc., but the outlook seemed hopeless enough in depression in health and spirits if she continued the bromides, more frequent severe epileptic convulsions, if she gave them up.

Just after the attack in March, 1884, and just before that in April, borax was commenced, and the bromides were discontinued. In the latter part of July, the borax was omitted on account of a very troublesome itching, scaly eruption, which, however, afterwards disappeared with the use of arsenic and ointment, as in the last case. In the meantime, there were three convulsions, and the borax was resumed. From March, 1884, to the present time, twenty-two months, there have been only two attacks while the patient was under the influence of the borax.

Something, therefore, has been gained, as compared with the bromides, in the manifestations of the epilepsy, but the general condition of the patient has generally improved. She has gained eleven pounds in weight, her general appearance is that of health, and she is uniformly bright, cheerful, and interested, with fifteen grains of borax, three times a day.

An intense itching comes on every several weeks, which disappears in two or three days, by taking seven drops of Fowler's solution three times a day, but which, without that, continues until a troublesome, dry, scaly eruption appears.

In both cases, the general condition had been wretched for years, from the prolonged use of the bromides, and as to the diminished frequency of the convulsions, all that could be said was that something was gained by taking the medicine. In my desire to build up the general health, and keeping in view the tendency to an annoying skin disease from the use of borax, it is quite possible that I have not increased the dose rapidly enough. It is my intention to gradually reach thirty grains, three times a day, if there is no contra-indication to its use. I should say that, in both cases, the usual physical examinations were made of chest, urine, eyes, etc. The result was negative as to evidence of organic disease. In both cases, also, there were the usual restrictions as to diet and habits of life. Indeed, there had been, for years, the care exercised in these respects, which is common with physicians who have given especial attention to the treatment of epilepsy.

I have a number of other cases in my note-books, of marked improvement from the prescribing of borax after the bromides had failed to do much good, and also, many where the alternate use of the two drugs, each for several months, was attended with excellent results. But it would be superfluous to report them in detail, and tiresome to listen to them. I have seen only one apparent cure from the use of borax, but thus far, I have used it only in cases where the prognosis seemed very unfavorable.

The first few doses of borax often produce diarrhœa, which soon ceases. The eruption on the skin is readily controlled, and the tendency to nausea, flatulence, or indigestion, is easily met with spirits of chloroform, tincture of cardamon, compound spirits of lavender, etc.

In a disease where the natural tendency is to mental

impairment, as in epilepsy, it is difficult to prove that the long continued use of the bromides tends towards dementia of even a slight degree, but I believe that they cannot be used for a long time without some disadvantage, and that in children or youth, they cannot be taken for years together, to a sufficient extent to control epileptic convulsions without not only direct injury to the brain, but also, without producing an arrest of development due to lessened energy and diminished use. I have no doubt, however, that there are cases where it is well to give them, nevertheless, and I cannot say how often, or in what cases, borax will prove successful. But we should not abate our zeal in trying to find some other means for the same end, with which there may not be so manifest injury with the benefit.

ON THE LIMITATION OF THE CONTAGIOUS STAGE OF SYPHILIS ESPECIALLY IN ITS RELATIONS TO MARRIAGE.[1]

BY FESSENDEN N. OTIS, M.D., OF NEW YORK.

In whatever consists the true contagium of syphilis, one important fact in relation to it is well proven, namely: that it is contained in the substance of the initial lesion of chancre and the lymph channels and glands in immediate relation thereto. And that, as a rule, for a period of at least eight weeks, it is confined between this point and the general blood current.

It will thus be seen that the doctrine of a mysterious, instantaneous, syphilitic infection, as still claimed by some authorities, is denied, and that a gradual infection, through physiological channels alone can be considered possible.

A few words in proof of this position. Inoculations of healthy persons with the blood of a person affected with an initial lesion of syphilis failed to communicate syphilis, until after the eighth week from the date of infection. Several well authenticated cases of this sort have come to my knowledge. Twice the inoculation was in my own person. A great amount of evidence on this point is furnished by Diday. In his work on Infantile Syphilis he says, that syphilis contracted by the mother after the completion of the seventh month of gestation *has never produced the disease in the fœtus.* Abernethy had previously claimed the same immunity for the fœtus, after the seventh month, but Diday asserted it as a *law* to which there were practically no exceptions. On page 32 of his work on Infantile Syphilis (Sydenham edition, 1859), he says: "Under similar circumstances a child born, apparently healthy, of a woman who had contracted syphilis in the eighth or ninth month only, might be entrusted to a healthy nurse without fear of communicating the disease to her."

Practically, as it is thus shown, the disease is limited to the initial lesion and its immediate vicinity during the first two months after infection. Syphilis may then, up to such period, be claimed as a local and not a constitutional disease.

It has been proven and accepted by such authorities as Fournier and Cornil of Paris, Mireur, of Marseilles, Van Buren and Keyes and Bumstead and Taylor, of New York, Hill and Cooper, of London, and others, that the physiological secretions, mucus, milk, tears, sweat, sebum, urine, semen, etc., do not contain the contagium of syphilis. Fournier says: "It has long since been established that the semen of a syphilitic subject is not susceptible of transmitting syphilis."[2]

Bumstead and Taylor say, (Fifth Edition, page 463): "The non-inoculability of the semen of syphilitics was fully proven in a number of experiments made by Mireur, of Marseilles"; and further at page 807, "It has been proved that the semen is not an infecting fluid, as are syphilitic blood and the secretion of specific lesions. . . . We therefore cannot admit the infectious properties of semen as regards the female or the fœtus subsequent to conception." Hill and Cooper (Second Edition, page 73) say: "The semen cannot be asserted to be contagious with the knowledge we at present possess." Cornil, 1882, says: (Am. Edition, page 351) "There are no reliable cases evincing the truth of syphilitic contagion by the spermatic fluid." Acceptance of this important fact enables us to eliminate from the mysteries of syphilitic contagion such cases as those where the father is claimed to have infected the embryo or fœtus, while the mother has escaped the disease, and also makes its clear beyond dispute that syphilis is never, under any conceivable circumstances, communicated from the father directly to the fœtus, but that in order to infect the product of conception before birth the mother must first be infected.[3] The semen having been proven not to contain the contagium of syphilis, settles this much discussed question, inasmuch as through the semen alone has the father any possible access to the ovum of the fœtus.

It will also be seen that if the physiological secretions which do not contain germinal cells, are free from the contagium of syphilis, this constitutes a strong argument in favor of the nature of the contagium of syphilis as claimed. And further, if contact of a degraded germinal cell is essential to the production of syphilis and the disease is conveyed to the embryo or fœtus only through the blood of the mother, there is then no longer, strictly speaking, any *hereditary* transmission of syphilis. In order to the acquirement of syphilis an organism free from that disease is essential. The infecting cell of syphilis must first be brought in contact with otherwise healthy cell material. "No mysterious hereditary influence is necessary nor can be admitted. If the disease germ of syphilis, by contact with external parts or through its amœboid power, traversing tissue, reaches healthy cell material, whether in the adult, the infant or the embryo, then the syphilitic influence is directly transmitted and its development must be governed by the same laws that characterize its progress in the known behavior of the disease in the adult; modified to a greater or less extent by the age and degree of stability of the tissues in which the disease is developed. . . . It is undoubtedly the fact that various adynamic diseases and conditions in fœtal and infantile life result from pre-existing disease in the generative organs of parents who have been subjects of syphilis, but that any syphilitic disease, proven to be such by its power to transmit syphilis, has been communicated to healthy persons after the active or so-called *secondary* stage of the disease has passed, there is no well authenticated evidence to prove."

[1] Read before the New York State Medical Society. Some introductory paragraphs on the nature of the syphilitic contagium have been necessarily omitted.

[2] Alfred Fournier, Syphilis et Mariage, Paris, 1880, page 26.

[3] It is important to note that the very authorities which claim that the embryo or the fœtus may be affected while the mother escapes still advocate the administration of mercury to the mother, and they also claim distinctly that such treatment prevents subsequent abortions and disease in the fœtus.

I am quite aware that this position will at first be received with surprise, but it is the logical sequence of the acceptance of the degraded human germinal cell as the true contagium of syphilis, and it can, I believe, be shown to be in the fullest accord with all well authenticated facts in regard to hereditary syphilis.

These views were originally published by me in a series of class-room lessons in 1879, and again in my volume on the "Physiological Pathology of Syphilis," in 1881, and elaborated more fully in an article on the "Syphilis of Infants and Hereditary Syphilis," in 1884. It is worthy of remark that Mr. Jonathan Hutchinson, of London, the leading authority on syphilis in Great Britain, has arrived at conclusions identical with my own in regard to the nature of the so-called hereditary syphilis. Thus in his "Pedigree of Disease," published in London, 1884, page 90, he says: "A child, then, I assert, inherits syphilis in precisely the same sense and in precisely the same manner as it may inherit small-pox. It inherits not the diathesis but the disease. The reason why the inheritance of small-pox is rare, while that of syphilis is unfortunately common, is simply that the period during which the virus is extant in the blood is very different in the two cases. The conspicuous facts then, in reference to the syphilis of infants, afford no proof that the diathesis of syphilis, any more than those of the other exanthemata is capable of transmission." Mr. Hutchinson further says: "My argument, if I have made it plain, has pointed to the conclusion that no transmission of syphilis is possible, and that the child gets either nothing at all or the germs of the disease, and that in the latter case they will, subject to the laws of idiosyncracy, develop equally in all cases."

Mr. Hutchinson does not attempt to explain the grounds on which these conclusions — so radically opposed to the usual teachings of authorities — are based. It is not, however, possible that in the face of generally accepted traditions to the contrary, these questions could be settled in such a positive way through personal, clinical observation alone. Mr. Hutchinson's teaching is the legitimate and logical sequence of the acceptance of a gradual syphilitic infection through cell contact, as heretofore claimed in this paper.

Having thus indicated the limitations of the contagious element of syphilis in the matter and mode of infection, we have now reached a point where we may, I think, proceed to the consideration of the probable or possible limit of the contagious stage of syphilis in point of time. A very general impression prevails, both in and out of the profession, that syphilis is capable of being communicated to healthy persons by a person once the subject of the disease, either by contact or by heredity, throughout the lifetime of the individual. It is a common belief that when after years of freedom from any evidence of the disease any lesion is recognized as due to a former syphilis, it is the indication of a poison still remaining in the blood of the individual, and that it may be transmitted to healthy persons by contact or by heredity. It has, however, now come to be understood practically that when the accumulations of cell material which have caused the lesions of the secondary stage of syphilis, and the enlargement of the lymphatic glands at various points have been eliminated, the disease is, as a rule, no longer contagious, and persons the subjects of syphilis who have by systematic and thorough treatment been brought to this condition, are said to be cured of syphilis. The time during which the treatment is recommended by authors to be continued, is pretty uniformly fixed at about three years. If then, the patient has been free from all signs of syphilis for one year he is pronounced cured, and he is permitted to marry.

Fournier says: "The truth is that with some very rare exceptions syphilis constitutes only a temporary bar to marriage." Bumstead and Taylor say: (Fifth Edition, page 91) "It may be stated in broad terms that no syphilitic father should procreate children until two years after infection; during which he should sedulously follow a systematic course of treatment." Keyes ("Venereal Diseases," Wood & Co., 1880) says: "After the virulence of the disease has been exhausted a man may marry and should marry." Again (page 78), "In a general way it may be safely said that a man should not marry until at least three good years lie between him and his chancre, and at least one year has elapsed since the last symptom which can be ascribed to syphilis." Hill and Cooper (London, 1881) state that "Under any circumstances the shortest period between infection and marriage should be three years. . . . Under no circumstances should a person with obvious signs of syphilitic disease marry, however long a time has elapsed since his infection, for though communication is rare when several years (four or five) have elapsed, *it may still take place after as many as ten or even more years, even when the form of disease is of the character commonly called tertiary.*"

It will thus be seen that authors are not quite harmonious in regard to the safety of marriage after syphilis, although all are agreed that no marriage should be permitted, until a year after the disappearance of any lesion which could be attributed to syphilis. All, however, are also agreed that the communication of syphilis after the third year of its existence is rare. It has been determined by careful clinical observation that the contagious element of syphilis is, as a rule, eliminated within a period varying from perhaps two to four years, and that all the manifestations of disease beyond this time, apparently due to syphilis and called tertiary lesions are not entitled to be considered strictly speaking as syphilitic. Mr. Hutchinson says of them: "What are called tertiary symptoms do not constitute a necessary stage of syphilis, and are to be regarded in the light of sequelæ." This statement is corroborated by the fact now well determined that the secretions of all such lesions are innocuous; and that neither they nor the tissues, nor the blood of patients bearing such lesions contain a contagious element.

Without the *contagium* there can be no syphilis. Ricord claims that tertiary lesions are not inocuable and cannot be transmitted by hereditary descent. Bumstead and Taylor (Fourth Edition) after reviewing this matter say: "Hence we consider the blood and the secretions in tertiary syphilis innocuous." Diday performed inoculations with the blood of persons in the tertiary stage of syphilis with a negative result.

If time permitted I think it could be satisfactorily proven to you that the tertiary lesions of syphilis are invariably due to obstructions of lymphatic spaces and channels, the result of simple pathological changes occuring during the active or contagious stage of syphilis. I will simply say that it has been determined through microscopic examination that *all* the lesions of tertiary syphilis are characterized by an accumula-

tion of so-called gummy material and that this gummy material has been found not to differ in any essential respect from normal germinal material, and that the damage associated with it may, in every case, be fully accounted for by the mechanical influence of its presence. It is to the occasional occurrence of tertiary lesions in persons who have passed through the active stage of syphilis, that a persistence of the syphilitic diathesis, with all its power of communicating syphilis for an indefinite period, even possibly through the lifetime of a patient is claimed. If, therefore, it can be absolutely proven that the active or contagious stage of syphilis does *not* last indefinitely, and that the lesions of the tertiary stage and the blood during this period are also free from the contagium, we may then hope to reach some definite limitation of the contagious stage of syphilis in all cases.

The acceptance of the degraded human germinal cell as the true contagium of syphilis and its logical sequences as determined through our present knowledge of minute physiology and pathology will lead towards, if not definitely to, such a result. But it is to competent and well authenticated clinical records that we must now look for the solution of the important question at issue.

In the recent work on "Syphilis et Mariage" M. Alfred Fournier (for the purpose of justifying his statements that syphilis is but a temporary bar to marriage previously quoted), has presented a series of eighty-seven examples occurring in his own experience. In presenting the carefully tabulated report of these cases, he says: "For my part alone I have in my hands, to speak only of written facts, eighty-seven observations relative to syphilitic subjects, undoubtedly syphilitic who, having married, have never communicated to their wives the least suspicious phenomenon; and moreover, these eighty-seven have produced among them a total of 156 absolutely healthy children."

In examining the tabulated records of these eighty-seven cases (Fournier, "Syphilis et Mariage," page 231, et seq.) I found that thirty-six out of this number of men who were thus proven to be free from any power to transmit syphilis, either by direct contact or by heredity, were subjects of late or tertiary lesions, *after marriage*, some *before* and some *after* the birth of children. These lesions comprise almost all the varieties of the sequelæ of syphilis, thus: gumma of the penis, palmar psoriasis, dry tubercular syphilide, gumma of velum palati, cerebral syphilis, papulo tubercular syphilide, costal periostitis, cerebro spinal symptoms, evidently of syphilitic origin, diplopia, passing attacks of hemiplegia, nasal syphilides, ecthyma of legs, syphilitic sarcocele, nasal ulcers, ulcerative laryngitis, papulo-squamous, palmar and plantar syphilides, sclerous and ulcerative glossitis, papulo-scaly syphilides of circinate form, tubercular ulceration, syphilide of the nose, etc.

In examining the tables of M. Fournier still farther it was found that the average time of marriage after infection in the eighty-seven cases was 5 8–10 years. That twenty-five per cent. were married within *three* years after infection, and over ten per cent. within *two* years.

In regard to the length and quality of treatment over twelve per cent. of the eighty-seven cases had treatment of less than a year's duration. Several with only a few months, one with the iodide of potash, and another with no treatment at all.

In this enormous mass of evidence, consisting of eighty-seven authentic examples, involving prolonged observation of 230 individuals adduced by an acute, thorough and competent observer, we have, what I shall claim, as absolute proof, first, of the non-contagiousness of all lesions of the tertiary stage of syphilis; second, of the possibility of the spontaneous cure of the contagious stage of syphilis (that is, without treatment) as shown in one case where there was no treatment, and in another case where only the iodide of potash was used. Third, that the limit of the contagious stage in syphilis may then, it seems to me, be certainly fixed at a point within the period of five years.

For my own part I have never seen a case of syphilis presenting an undoubted lesion of the secondary or active stage after the termination of the second year. I have seen a goodly number of cases of recurring papular syphilide, especially upon the hands and feet, occasionally upon the body, two and three years after an infection which had been thoroughly and systematically treated from the beginning, and I have always considered them as due to damage done to the lymph channels during the previous active stage of syphilis. After the third year in three such cases, marriage has been entered into with my consent, and in two, recurrences *in the identical places formerly occupied* took place nearly a year after marriage, and in both these cases the wife remained un-infected, and healthy children were reported, one now three, and the other two years old. I have seen frequent lesions of the tongue from two to a dozen years after infection, the sequel of mucous patches occurring during the active stage, which had been asserted by physicians to be mucous patches and capable of transmitting syphilis. Sometimes these would present simply as pale pearly stains or whitish patches, sometimes erosions and ulcerations and cracks again appearing as irregular spots covered with a white or grayish pellicle or scales with more or less induration. Such lesions I have never known to prove a source of syphilis to others, although coming into most intimate contact, such as between man and wife, for a series of years during which also occasional recurrences had taken place. Hence I do not hesitate to state that such forms of trouble occurring as a sequel of syphilis three years or more after infection do not contain the contagious property of syphilis and hence cannot communicate it. I have also seen numerous cases and observed them during long periods in which marriage has taken place from three to twelve or more years after a syphilitic infection of the father, and I have never yet seen a single symptom of syphilis in the wife or in the children born of such marriage. In one case reported in my class-room lessons and in my work on "Syphilis and the Genito-Uninary Diseases" five years after such a marriage, mucous tubercles appeared in the wife who, moving in good society was also apparently above reproach. The husband had been three years treated by me for undoubted syphilis previous to marriage, but he had never been free from the fear that he should sometime communicate syphilis to his wife. He accepted her syphilis as a result of an infection from him, and I was almost compelled to the same conclusion although it stultified my belief and public teaching for the previous five years. By a fortuitous train of circumstances, I was, however, enabled to obtain a confession from her, of an accidental carnal contact with an old lover, who

subsequently wrote to her inquiring after her condition and stating that while apparently well, except a little erosion on his penis, he found afterwards that the erosion was a chancre and he feared he had given syphilis to her. In the reported cases where syphilis has been claimed to have been contracted from persons whose syphilis had its initation three or more years previously, I believe that if the truth could be ascertained it would be shown that the disease was not contracted from such erosions, but always from a source less than three years from date of the infection. The overwhelming evidence as to the improbability of the communication of syphilis after the first three or four years from the date of infection as shown by the statistics of Mr. Fournier, should lead to the greatest opposition in accepting cases alleged where syphilis has been apparently acquired in contradiction of this position.

The traditions of syphilis claim that, once a man has had syphilis, he is a possible focus of contagion forever, and any evidence that a man has once had syphilis, is held as competent to prove that any syphilitic accident in his family, to the latest generation, may be reasonably credited to him. The important fact that syphilis may be and often is communicated through other sources is practically ignored. Syphilis from mediate contagion is common. It may be through the medium of a spoon, a pencil, a cane, a cigar, a kiss, the dentist's instruments. The accoucheur may acquire it through his finger. Nine cases of this sort I published some years since as occurring under my own observation, and I have seen several others since that time. Besides this, I have seen at least double that number of cases of syphilis, where no possible trace of the source of contagion could be ascertained.

A cup or any other article in common use, defiled with the secretions of a mouth, harboring a mucous patch, coming in contact with a crack, or abrasion of the lips of a healthy persons, may communicate syphilis through a resulting lesion, which shall pass away unnoticed. Any similar contact with the blood of a person in the active stage of syphilis, will communicate it. And yet, if the resulting syphilis is not distinctly traced to some one of these sources, the disease, where possible, is referred to some person who has been found to have had syphilis perhaps a quarter of a century before. It is the tradition based upon the everlasting contagious nature of the disease that the profession are wont to fall back upon to explain the mystery. Even M. Fournier is not free from the tyranny of this unproven tradition. Notwithstanding the convictions that his intelligent experience has imbued him with, that syphilis is not liable to be communicated by any person after the first three or four years from infection, and which impel him to state that *syphilis is but a temporary bar to marriage*, and which also make him say, "Yes, a hundred times yes, a man may marry after having had the pox, and the result of such a marriage, under these conditions, may be absolutely safe, medically speaking." Yet Fournier subsequently says: "We must still recognize some rare exceptions where the disease retains its contagious properties indefinitely. Such, for example," he says, "is the case of a patient whom I treated some time ago. This young man had been infected with a syphilis five years before, which one could fairly call mild, since the initial chancre was only followed by a roseola, a palmar syphilide of slight intensity, and a sore throat. He treated it, almost from the beginning, sufficiently well: several times he submitted, under my advice, to a strong mercurialization (fifteen to twenty centigrammes of proto-iodide daily). Well, in spite of this treatment, and in spite of all my efforts, the patient (who, by the way, is a smoker, a circumstance essential to note) had not ceased to be affected, during a period of five years, with lingual syphilides almost continuously. I cured him of one breaking out: one or two months later a new one attacked the tongue. Then came a new treatment, followed by a new cure: then reappearance of the malady, and so on. To be brief, I always cured him, and it always began again, to use his own expression. Now that he has completely given up tobacco (at my earnest solicitation), the eruptions become less frequent, but have not altogether ceased; and quite lately I have again seen him with syphilis coming on the back part of his tongue. Now, what would have happened if, relying on the mild nature of his disease, and satisfied as to the treatment followed, I had allowed the patient to marry, between the two outbreaks of such symptoms? What would have happened, I need not predict theoretically, because I have had a practical demonstration. This young man took as a mistress last year, a woman who till then was perfectly healthy; exempt from every venereal symptom. Some weeks later he brought her to me, affected by an indurated labial chancre, manifestly received from the lingual syphilides of the patient."

This case, and as he does not allude to any other, presumably the only one in his own experience, is presented as a typical one, to illustrate the possible persistence of contagious lesions after many years, notwithstanding the disease is of mild form, and has been systematically, persistently and efficiently treated, "almost from the beginning."

Now, is such a conclusion sufficiently warranted by this evidence, on a matter of such moment? Let us look at other causes equally possible, equally probable. The young man did not take for a mistress a woman whose virtue was above suspicion. Such a coincidence, as the contact of such a woman's lip, with some other lip, with fresher syphilitic lesions, would not be so extraordinary, as the acquirement of syphilis, from a lingual lesion, five years after infection. Such a woman would be quite in line of coming in contact with persons having active syphilis, and, either directly or by mediate contagion, might have acquired her labial chancre, even if she had not become this man's mistress, without exciting special comment.

Let me place here in contrast to this, a case taken from my own carefully recorded experience. A young man had undoubted syphilis; from the first under my own observation, characteristic initial lesion, general gland enlargement, roseola; no pronounced papular eruption; mucous patches on tongue and inner surface of cheek. After a somewhat desultory treatment, of two years, he was apparently well. Remained free from all trouble for two years; then began to have ulceration at the side of tongue, pearl color at edges; characteristic appearance of the so-called chronic mucous patch; was greatly addicted to tobacco, tongue resisted local treatment, unless accompanied by exclusion of tobacco! repeated recurrences for nearly five years; not markedly affected by specific treatment, which was tried from time to time, when at last, he married a *virtuous* girl. Since that time, already four

years have elapsed, and the wife has not had a symptom of syphilis. As a result of this marriage, there is to-day, a perfectly healthy child three years old, and yet within the last month her husband has consulted me in regard to a recurrence of the ulceration at the border of the tongue.

M. Fournier ignores entirely the possibility of accounting for the initial lesion of the lip, in the rare case he quotes, in any way, except through the chronic lesion, which his history has shown, chiefly to be dependent, for the difficulty of cure, on the use of tobacco. This one case is placed squarely, as an offset against his eighty-seven cases, some of which were also cases of ulceration of the tongue, incontestably proved to be free from the contagious element of syphilis by the immunity from infection of the eighty-seven wives and one hundred and sixty-seven children involved. It is true he brings forward a few cases, in the practice of other physicians, to prove the possible inoculability of late lesions of syphilis. But these, in the face of such statistics as he has given us, are not to be accepted, while they all open to explanation, in various reasonable ways, independently of the claim of a contagious element, persisting for years from the date of infection. When we consider the important interests at stake in a just conclusion of this matter; when we realize that thousands of individuals acquire syphilis, every year, often innocently, and that very many of these are now doomed to suffer a life-long apprehension of communicating the disease, and this too, it is claimed without reason. We cannot admit in the adjudication of the point at issue any evidence unfavorable to such claims, without the strictest scrutiny, nor accept any but the most unequivocal facts. We cannot allow even such an authority as M. Fournier to force the acceptance, without question, of a conclusion, in such direct antagonism with the mass of positive and conclusive evidence that he has given us of the non-inoculability of the late lesions of syphilis. We are, I assume, fully warranted in claiming that the explanation of the only case, which he brings up directly, to prove that the late lesions of syphilis may, in exceptional cases, be contagious, undoubtedly lies in the acquirement of syphilis from a source quite independent of the seven years old lingual lesions to which he hastily attributed it. Eliminating this case, we have then a solid mass of evidence, which on any other point, would be absolutely conclusive.

In support of this, we have also, the failure of all experimental inoculations, with the secretions of the late lesions of syphilis, which have been failures *in every instance*. We have also the knowledge of some of the various occult ways in which syphilis may be acquired, defying absolute demonstration. In the absence of an old syphilis in the husband, we have various ways of accounting for repeated abortions, and pemphigoid infants, which rest upon the diagnosis of syphilis as a cause when such syphilitic history in the male parent might have been accepted, before we knew that the semen does not contain the contagium of syphilis. The great discussion in the Academy of Medicine in Paris, a résumé of which is given by Diday, (page 72 of his work on "Infantile Syphilis") shows that the conclusion was arrived at that "Pemphigus of the fœtus, was not an immediate result of syphilis, but an indirect sequel of the exhaustion which this disease produces." Disease of the placenta caused by syphilis has been shown to result in the continuation of abortions and the production of diseased infants, independently of the continuance of any contagious element in the mother, and thus we may reasonably eliminate the contagium of syphilis, as a necessary factor in the production of such accidents.

With this presentation of some of the facts and arguments which may be brought to bear in favor of a positive limitation of the contagious stage of syphilis to three, and at farthest to four years, with or without treatment, I rest my case.

RECTAL DISEASE OF UTERINE ORIGIN.[1]

BY C. P. STRONG, M.D.

Nearly every subject in gynæcology has been so thoroughly written about and illustrative cases so multiplied that it was with surprise I noted the lack of definite and detailed information regarding the causative influence of uterine disorders in cases of rectal disease. The literature of the subject, as found in the larger text-books is but the most general statements, while in monographs it is treated more from the point of view of the rectal specialist than the gynæcologist. It being my fortune to have several patients whose symptoms were mainly or entirely rectal, I sought to find some classification of symptoms or of lesions recorded, that would aid me in determining just how far I was justified in attributing their condition to uterine disease. My search was so unproductive that I have been encouraged to contribute the results of my personal observations and a few illustrative cases with the hope of adding, although it be but little, to the general knowledge.

There are certain symptoms that suggest at once rectal examination; constipation alternating with diarrhœa, frequent and ineffectual attempts at defecation, painful defecation, hæmorrhage, muco-purulent discharges, sensations of fullness in the rectum with general reflex disturbances of the digestive tract; and when one finds, associated with these symptoms, the lesions, internal hæmorrhoids, subacute and chronic proctitis accompanied usually with fissure of anus and often with ulceration of the rectal mucous-membrane, certainly an investigation of the uterus and its adruxa is demanded. I do not intend to imply that these conditions necessarily mean uterine disease, for there is a vast number of other sources from which they may arise, but rather, that when uterine disease does cause rectal trouble, these are the symptoms, and these lesions present, and that cure will be more certain and speedy, and relapses less frequent, proportionally to the attention paid to the uterine complication. Certain conclusions, too, I formed as to the nature of the uterine disorders that would produce these lesions: first, uterine malpositions, especially retroflexion when adherent, and retroversion, prolapse associated with laxity of the vaginal walls; second, periuterine cellulitis, most markedly when retrouterine and hardening and fixing the anterior rectal wall.

There are several reasons for the disturbing effect of uterine malposition upon the rectum, but the important one is the disturbance of the veinous circulation in the lower part of the bowel, which has both a mechanical and physiological explanation. The internal hæmorrhoidal veins, valveless and thin-walled, as

[1] Read before the Obstetrical Society of Boston, December 12, 1885.

they emerge from beneath the mucous membrane through the muscular coat of the rectum, pass through openings that are readily compressed; also, this lower part of the rectum is especially rich in its nerve supply, and the mal-placed uterus, depressing the rectal wall at this spot, acts as a stimulus, producing contraction of the muscular coat of the intestine, which occludes the veins and dilates their terminal branches. So far the conditions are analogous to those occurring during normal defecation, and if now the uterus were raised all would be well, but it maintains its place and under the stimulus of its presence the contractions of the muscular wall become constant, the dilatation of the veins is permanent, and internal hæmorrhoids are produced. Passive congestion of the area drained by the veins ensues, and with this a sub-acute inflammation of the mucous membrane leading to increased secretion and loss of epithelial covering, thus adding new factors for further disturbance. Coincident with these changes the usual alterations in the uterus consequent upon its displacement, continue rendering it more and more a source of irritation to the rectum. When the uterus is in its normal position and movable, although it may press firmly against the rectal wall it stimulates no contractions, because of the deficient nerve-supply at this point of the rectum, and because its position is so constantly varying; if, however, it is fixed by adhesions a new element is introduced, the condition is then analogous to a rectal stricture, formed by retro-uterine cellulitis, an obstacle is opposed to the normal descent of faces preventing the regular and complete emptying of the rectum, irritating masses may be retained in the dilatations above and below, causing ulceration of the mucous membrane, and starting a new series of evil results.

There are two conditions that I pass over, content with merely naming them, their dependence upon uterine complications and their treatment being so obvious, hæmorrhoids during pregnancy, rectocele from a prolapsed uterus.

I have preferred not to enter too minutely into the various pathological changes that may occur in the rectum in consequence of uterine disease, because that would involve considerable theoretical discussion and necessitate a consideration of the mutual reflex disturbances, and my purpose in this paper has been only to record the results of my personal observations, therefore I pass at once to the cases I have selected as illustrative of the types of uterine disease whose symptoms are mainly rectal.

CASE I. Hæmorrhoids, internal and external, with profuse hæmorrhages and chronic proctitis. Caused by an enlarged and retroflexed uterus. Recovery without rectal treatment.

Mrs. X., widow, five years past the menopause, complexion anæmic and sallow, suggestive of malignant disease. For ten years has suffered from hæmorrhoids, which during the past two years have given her no rest night or day. Severe constipation, partly acquired as each dejection was accompanied by loss of blood, not infrequently to such an extent as to cause syncope. Protrusion of masses from the rectum at each defecation with abundant mucous discharge. Frequently confined to bed for several consecutive days. She had about exhausted the medical treatment of the rectum, having sought relief from many sources and refusing the operation that was finally urged upon her by all whom she consulted. As to the uterine symptoms, she had none, except backache, which of course could be readily explained by the condition of the rectum and her general poor health. The anus was surrounded by a fringe of hæmorrhoids, not inflamed but full of blood. Slight straining on the patient's part protruded about three quarters of an inch of the rectum turgid, streaked with blood and mucus; the numerous veins dilated to their utmost limit. The mucous membrane was thickened and here and there denuded of the epithelium, bleeding at the gentlest touch. Passing the finger up the rectum at the distance of an inch and a half to two inches it came against a firm globular mass occupying the whole calibre of the canal, suggesting at once a large rectal polypus, but noticing its apparent relation to the cervix as felt through the rectal wall, the diagnosis of retroflexion with adhesions was made and confirmed by vaginal examination. The uterus was much enlarged, three and a half inches was the internal measurement, although the catamenia had not appeared for five years. Both walls of the vagina were also lax. Owing to the tenderness of the rectum it was a matter of considerable difficulty to replace the uterus, but this was successfully accomplished by packing for two months, and then a retroflexion pessary readily retained it in its normal position. The amelioration of the symptoms when the pessary was substituted for the packing and the uterus lifted well forward was most marked and immediate. Bleeding ceased at once and has never recurred during the fifteen months she has been under my observation. Regular daily dejections, without pain, have been established. The internal hæmorrhoids have almost disappeared and the external ones form merely a fringe of hypertrophied skin. The uterus has decreased one-half inch in size and the patient's general health and strength has improved in a corresponding degree.

This case is especially interesting, because from the first visit to the last, a week ago, the only treatment has been directed to the uterus, notwithstanding all the symptoms were rectal. There has only once been any indication of a relapse. After an absence of three months, the patient returned and stated that for a few weeks past she had been troubled by the old sensation of fullness in the rectum, unaccompanied, however, by any graver symptoms. Examination showed that the uterus had bent backwards over the upper bar of the pessary and was pressing into the rectum. Replacement of the uterus and the insertion of a slightly longer pessary effectually cured this symptom.

CASE II. Subacute proctitis with fissures of the anus, dependent upon a slightly prolapsed uterus. Rectal treatment ineffectual until the uterus was replaced. Cure.

Mrs. X., aged forty, multipara, of exceptionally nervous temperament, has suffered since puberty with various uterine disorders, and has been under constant treatment for years. When she first consulted me, two years ago, there was dysmenorrhœa, leucorrhœa, inability to stand or walk, backache, and a host of kindred uterine symptoms, but during the past two years or more these had been overshadowed by rectal disturbances; constant pain in the rectum, acute suffering so intense during defecation that the act was postponed to as infrequent intervals as possible, profuse muco-purulent discharges, slight staining of the stools with blood. One of the most prominent symptoms, which she called "rectal neuralgia," was pain of severe character about the anus and lower part of

the rectum, induced by surface chilling of the body, so that even in summer she never approached an open window without protecting herself by a thick shawl. Ether was necessary for an examination, and there was found the following conditions: a slight fissure of the anus; subacute inflammation of the rectal mucous membrane, extending quite as high up as the rectum could be exposed to view, the surface streaked with lines of pus and thick glairy mucus, and studded with minute, red, granular elevations, looking not unlike grains of red pepper. The uterine condition was not encouraging. Both tubes were dilated, especially the left one, which appeared about three-quarters of an inch in diameter, and outside these tubes there was considerable inflammatory deposits. The uterus lay about an inch below its normal level, pressing back firmly into the rectum. Rectal treatment was at once begun by stretching the sphincter, cleansing the mucous membrane and applying a strong solution of nitrate of silver. For several weeks a varying treatment was employed, including absolute rest in bed, hot rectal douches and astringent applications, but beyond the improvement caused by the healing of the fissure, her symptoms were but little benefited. Then the uterus was raised and kept free from the rectum by a pessary, and coincident with this manœuvre there was steady gain. The purulent discharges ceased and the pain disappeared. An examination four months ago showed a perfectly normal appearance of both rectum and anus. There has been no relapse. The uterine condition and enlarged tubes have also improved, contrary to my expectations, under mild treatment, and except considerable dysmenorrhœa, the patient declares herself perfectly well, although it will be some time yet before I shall venture to permanently remove the support. The so-called "rectal neuralgia" is now never noticed. The rectal treatment of this case that was attended with the most benefit was the employment of suppositories of iodoform and hydrastin night and morning.

CASE III. Chronic proctitis, with anal fissure dependent upon cellulitis, extending behind the uterus and involving the anterior rectal wall, combined with prolapse of the uterus and left ovary. Improvement.

Mrs. X., thirty-six years. As with the preceding cases, the symptoms for which relief were sought were rectal. As stated by the patient, there was pain, discharge from rectum, resembling the white of eggs, or else yellow; inability to have a movement without employing both physic and enema, and often three or four enemata were required. The pain accompanying defecation is excruciating, often patient faints; and the rectum is never free from a feeling of fullness and soreness. The rectal symptoms were not very chronic, having lasted but six months, but for about a year, in consequence of a fall, patient had suffered from serious uterine troubles, for which she had received beneficial treatment. Previously to this accident she had been in good health. For the past three months, she had been in bed most of the time. Examination under ether revealed the presence of several superficial fissures in the posterior part of the anus; the rectal mucous membrane was thickened, of a dusky hue, and thickly sprinkled over the surface were minute ulcerations, varying in sizes from a pin head to a split pea. Pus and mucous abundantly present. On the anterior wall was a projection caused by the fundus of the uterus, which was firmly bound there by cellular inflammation, thus acting as a direct mechanical obstacle to the descent of the fæces. The rectal wall was so thickened and undurated, it could not be depressed to permit examination above. The uterine conditions were, a hypertrophied uterus over three inches in depth, lying low in the pelvis and rendered immovable by a mass of cellulitis, which involved as well the left ovary and the anterior rectal wall. From the sequence in time of the rectal and uterine diseases, it was quite evident that the former was dependent upon the latter; but until there was some improvement in the condition of the rectum it was hopeless to attempt any manipulations leading to re-position of the deplaced organs. Fortunately the most acute and troublesome rectal symptoms, the painful defecation and discharge of pus, improved by the dilatation of the sphincter, the use of hot rectal douche with weak solutions of nitrate of silver, and employment of the iodoform suppositories, so that very soon it was possible to treat the uterus directly. The gain was so rapid when the cellular effusion was absorbed and the uterus became movable, that rectal treatment was then entirely abandoned. At the end of five months the only reminder of the previous trouble were constipation, which was easily controlled by a laxative, and the presence of considerable mucous discharge, if the patient was long on her feet, showing that the rectum was still affected by the pressure of the prolapsed uterus and ovary.

The patient refused to wear a support, and so I have reported this case as improved, not cured, for I have no doubt that a recurrent attack of cellulitis will bring on her rectal symptoms again. It is about a year since she passed from my immediate observation, and there has been no opportunity since that time to make a local examination, but I have been informed that she is attending to her duties, and is not apparently an invalid.

CASE IV. Chronic proctitis, with deep ulcerations and fissure of the anus, dependent upon a retroflexed and adherent uterus. Rectal treatment ineffectual until supplemented by replacement of the uterus. Cure.

Mrs. X., thirty-two years, multipara. Consulted me in November, 1883. Her symptoms were both uterine and rectal, but the latter assumed the greater prominence. From the graphic and intelligent history she furnished, I make an extract of the important points. Since the establishment of her catamenia, at the age of seventeen, she suffered greatly from dysmenorrhœa, backache, and bearing-down pains; symptoms exaggerated by constantly standing, as her duties as teacher demanded. In 1871 constipation became a symptom of increasing prominence, and to this was joined hæmorrhage at each defecation. Usually she made several abortive attempts to secure a dejection before being successful, and was subject to constant pain in the rectum. For four years she was under treatment by diet and medicine, and then, passing into other hands, was examined and cured of fissure of the anus by dilatation of the sphincter. There was very great gain in the rectal symptoms after this treatment for several months, but the uterine symptoms remained unchanged, and slowly the rectum returned to its former condition. In 1879 she had an attack of peritonitis, and after convalescence from this she thus describes her condition:

"There were five or six daily attempts at defecation, the fæces were hard, dry, and in small pieces, not over an inch and a half long and shaped like the handle

of a silver dinner knife, having on one edge a streak of bright red blood and considerable amount of greenish yellow matter on the end." With these conditions unchanged the patient was married two years later, that is, in 1881. Marital life and duties exerted a most pernicious effect. She failed steadily, and when I first saw her, two years later, she was in a deplorable condition: emaciated, exhausted by pain, spending most of her time in bed, unable to walk or even stand for any length of time. She said she did not mind the backache or dysmenorrhœa, but that the trouble in the rectum was "killing her." At first I thought there must be malignant disease of the rectum to produce such depressing symptoms, but recognizing the sharply retroflexed uterus pushing into the rectal walls, and the presence of adhesions, I determined to try uterine treatment alone. A few attempts convinced me of the impracticability of accomplishing anything by this plan until there was greater tolerance of the rectum toward the necessary manipulations. Under ether the sphincter was dilated, showing several superficial and one deep fissure, and permitting the escape of a gush of blood and pus. When the sphincter was fully opened and the speculum in position, a single ulceration appeared, extending from the anus to a point about five inches up the bowel and involving the entire circumference of the rectum, except a strip of mucous membrane, varying from one-half to three-fourths of an inch in width, on its anterior aspect. This little strip of membrane was swollen and boggy from infiltration, and there were deposits of lymph on the surface from which the epithelium was very easily detached. A dark, grayish, dirty-looking coating covered the surface of the ulceration, exposing an easily bleeding granular base on its removal. Whatever the remote cause of this state of affairs might be, there was evidently but one course of treatment to pursue, and that was to promote as rapidly as possible the cicatrization of the rectum. I thoroughly curretted through the slough and granulations to a firm base and then brushed over with nitric acid, using the greatest care not to encroach upon the little remaining strip of mucous membrane. For three weeks the patient was kept absolutely recumbent in bed, and then for an equal space, allowed to move only about her room, spending most of the time upon the lounge. The medical treatment was a broth and beef-tea diet, aloin as a laxative, and enemeta of hot water, and iodoform suspended in liquid vaseline. The rectum at first would reject two ounces of hot water immediately, but at the end of six weeks would retain three pints and more for about fifteen minutes. At the end of ten weeks there was most gratifying improvement, but still the symptoms were not all gone. Blood and pus had disappeared from the dejections, there was almost no pain accompanying them, but the fæces retained their peculiar shape, and there was still the sensation of fullness in the rectum, inducing frequent attempts at defecation.

Examination showed, that the rectum was now completely cicatrized and the fissure healed. There was no change in the uterine condition. The patient was competent to attend to the rectal treatment and faithfully obeyed all my instructions, but after resuming her household duties, and being upon her feet a considerable portion of the day, she reported in July, five months subsequent to the operation, that the old rectal symptoms were returning, and she was alarmed lest she should relapse into her former state. Under its improved condition the rectum was tolerant of the course of packing that was necessary to raise the uterus, and this treatment was carried out until the adhesions were so far stretched that a pessary could be introduced to complete the cure. I abandoned the packing for the pessary sooner than is my custom, because of the irritating effect upon the rectum, and also because vaginismus made the operation of packing both tedious and painful. Immediately upon the successful replacement of the uterus, the remaining rectal symptoms disappeared and have never since returned. I saw the patient two weeks ago, and she said that she now had a regular daily evacuation of perfectly formed fæces, unaccompanied by pain or mucous discharge, that there was no abnormal sensation whatever referable to the rectum, that she never took a laxative to secure a dejection. In a word, as she stated it, "I never should know I had a rectum."

In reporting the foregoing cases, I have purposely refrained from entering upon the particulars of either the uterine or the rectal treatment, that the attention might not be drawn from the point under discussion by a confusing mass of details, and for the same reason have omitted mention of uterine complications that had no especial significance in this connection.

The cases have been selected from among a number as especially illustrative of the type of rectal diseases, that are dependent upon a uterine cause. That the cause of the rectal trouble was a direct consequence of the removal of the existing uterine lesions, not a coincidence, is shown by the fact, that, with one exception, Case III, the patients had previously received rectal treatment for years, improving but never getting thoroughly well, and always relapsing.

RECENT PROGRESS IN OTOLOGY.

BY H. L. MORSE, M.D.

DR. CHARLES H. BURNETT publishes[1] an article on "Hernial protusion of the mucous membrane of the tympanic cavity, through the membrana tympani, in some cases of chronic purulent otitis media." This affection closely resembles granulation tissue, or a polypus with a broad base, the points for a differential diagnosis and for treatment, are as follows: The hernia of the mucous membrane is sensitive to the touch, forms suddenly, does not bleed easily upon being touched, but bleeds profusely if wounded, and yields quickly to the proper treatment.

Polypi and granulations are not sensitive, bleed easily, as a rule, upon being touched, and are cauterized, or removed by means of the snare without pain. On the other hand, hernia of the mucous membrane of the tympanic cavity, is made worse by any endeavors to cauterize, or to remove it by the snare. It can be properly treated in two ways only, first either by the application of powdered boric acid, or boric acid and alum in the proportion of ten grains of the latter to one ounce of the former, or by the instillation of absolute alcohol. The discharge attending it, is usually slight, and of a thick, purulent character. There is no tendency to spontaneous bleeding from the protuding mucous membrane, though Dr. Burnett has observed a tendency to recurrence of the hernia at the menstrual epoch. It is also worthy of note that this

[1] Medical News. Vol. xlvii, No. 17.

affection of the tympanic mucous membrane has been observed only in women. In conclusion, Dr. Burnett says, "I have seen only two or three such cases, but their peculiar liability to be mistaken for polypi or polypoid growths, as well as their resentful demeanor to the treatment applicable to true polypi or granulations, has induced me to record my experience with them."

We notice an instructive article[2] by Herr Adolf Hommel, on a new method of treatment for deafness resulting from what is known as sclerosis of the tympanic cavity, or chronic dry catarrh with anchylosis of ossicles of the middle ear. Dr. Hommel gives the history of his own case, and that of one patient, and the results are so good, and the method of treatment so easy to carry out, that the article is here quoted, notwithstanding the small number of cases in which the method has been tried. In 1877, examination of Dr. Hommel's ears gave the following results.

Chronic catarrh of both middle ears. Hearing distance for the watch, left ear 20 cm., right ear 200 cm., moderate central cloudiness of the membrana tympani. A second examination in the year 1879, showed the hearing to be, left ear 15 cm., right ear 200 cm., and at a third examination in 1881, the hearing distance for the watch, had decreased to 10 cm. in the left ear, and 150 cm. in the right ear. Bone conduction on both sides was good.

This steady increase in deafness had come on, in spite of treatment by means of Politzer's air douche. At this time Dr. Hommel began to make use of the treatment to be described. At the end of one month the hearing distance had increased in the left ear to 15 cm., and in the right to 190 cm. At the end of six months to 30 cm., and 380 cm., respectively, and at the last examination given on his chart, a little more than four years after this treatment was begun, the hearing distance had increased in the left ear to 40 cm., and in the right ear to 615 cm., that is to say, his hearing for the watch had been quadrupled. As compared with the previous four years, when he was either without treatment, or was treated by means of the air douche, and during which time his hearing diminished in the left ear one-half, and in the right ear more than one-third, this result is, to say the least, a very satisfactory one.

The other case reported is that of a thirteen-year-old boy, who had previously had a perforation of the membrana tympani, and a discharge from the middle ear on the left side, and progressive deafness increasing from year to year on the right side. At the time treatment was begun, examination showed, a dry perforation of the anterior inferior quadrant of the left membrana tympani — bone conduction was good — hearing distance for the watch was 5 cm. There was marked cloudiness of the whole of the right membrana tympani, slight tinnitus, bone conduction was good, and the hearing distance for the watch in the right ear was 12 cm. After seven months' treatment the hearing distance in the left ear had improved to 160 c.m., and in the right to 340 cm. That is to say, the hearing in the left ear was thirty-two times as great as before, and in the right ear twenty-eight times as great. The cloudiness of the membrana had gradually disappeared. The method of treatment pursued by Dr. Hommel in producing these very favorable results is as follows: With the finger, press the tragus against the meatus auditorius externus so as to close the latter completely, making it an air-tight chamber filled with compressed air, which forces inward the membrana tympani and the chain of ossicles, then allow the meatus to open again; the outward rush of the compressed air, assisted by the springing back again of the membrana tympani to its usual position, will carry with it some of the air normally in the external auditory canal, and cause a partial vacuum there, and this partial vacuum will suck outward the membrana tympani and the chain of ossicles. So that each inward movement of the membrana tympani, will be followed by an outward movement of it, and of the ossicles. This is to be done rythmically about 120 times a minute, four or five times a day. Dr. Hommel found that too long and too frequent use of this manœuvre brought on pain in the ear, but that by temporarily omitting all treatment this disappeared.

The principles upon which this method depends, are not new, namely, a sort of passive motion of the chain of ossicles in the middle ear which increases their mobility, and an increased activity of the lymphatics and consequent absorption of pathological material. It is by this latter process that the disappearance of the cloudy thickening of the right membrana, in the second case reported, is explained. Alternately compressing and then partially exhausting the air in the external auditory canal, is one of the well-recognized methods of increasing the mobility of the stapes and of the other ossicles, by what is analogous to the passive motion which is used to increase the mobility of a stiff knee or elbow joint. The simplicity of the method proposed in this article for accomplishing this, makes it well worth a fair trial.

In the "Transactions of the American Otological Society," Vol. III, Part 4, occurs an article by Charles H. Burnett, M.D., on "The relation between chronic otitis media catarrhalis and chronic rhinitis," in which he says, "chronic catarrh of the middle ear, that is, otitis media catarrhalis chronica (non-suppurativa) is invariably associated with some form of chronic rhinitis. The latter is usually of the hypertrophic form, since only about four per cent. of all cases of chronic rhinitis are of the truly atrophic form." . . . "It will be found that the catarrhal processes in the Eustachian tube and middle ear proceed from those in the nares and naso-pharynx, and hence partake of their nature, or, that they occur simultaneously with them, and are relievable by treatment of the nasal disease; therefore, all cases of chronic naso-aural catarrh, that is, catarrh of the middle ear, may be divided into two classes, namely, the hypertrophic and the atrophic." Again he says, "It may have been observed that I have said nothing about the faucial and pharyngeal symptoms in chronic aural catarrh. It is because the nasal symptoms are so much more important, because in fact, the pharyngeal symptoms, in comparison with the nasal are unworthy of consideration as causative elements in aural disease." For the description of the symptoms and appearances of the membrana tympani in these cases, and for the methods employed by the author to treat the nose and naso-pharynx, the reader must be referred to the original article, as space to describe them fully cannot be given here; the following, however, are three of the four conclusions formulated by Dr. Burnett at the end of his article.

(1) "That there is a constant causal relation between chronic nasal and chronic tympanic catarrh, in

[2] Archiv. für Ohrenheilkunde. B. xxxiii, heft 1 erstes heft.

which throat and faucial diseases play only a subordinate part, and this naso-aural catarrh is found under two chief forms, namely, the hypertrophic and the atrophic."

(2) "It follows that, owing to this close connection between the nose and the middle ear, treatment of chronic catarrh of the middle ear, to be efficient must be coupled with that of the coexistent and causal rhinitis, and that treatment of the throat alone is of little avail in chronic aural diseases. Treatment of and by the way of, the external ear is of course useless." . . .

(4) "It behooves the aural surgeon, therefore, to inspect and treat the non-surgical forms of nasal catarrh as they occur in chronic catarrh of the middle ear, laying more stress on the condition of the nares than upon the fauces, so far as any causal relations between these parts and the deafness are concerned."

Dr. Burnett's article states forcibly the intimate connection between chronic rhinitis, and chronic catarrh of the Eustachian tube and tympanic cavity, and the necessity of treating the former, in order to secure a lasting improvement to the latter. Improper treatment of the nose is worse than no treatment at all, for by it fluids are often forced through the Eustachian tubes into the ears to the detriment of the latter, but proper treatment of the nose, such as Dr. Burnett has described in his article, combined with treatment of the ears, is the true way to obtain satisfactory results in these too often most unsatisfactory cases.

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. M. BUCKINGHAM, M.D., SECRETARY.

FEBRUARY 8th, 1886, the President, DR. F. W. DRAPER, in the Chair.

DR. GEORGE B. SHATTUCK reported the following case of

ACUTE MILIARY TUBERCULOSIS.

B. K., twenty-one years of age, single, housework, born in Ireland, had scarlet fever last August, from which she made a good recovery. Otherwise, her health had always been good. Her father was said to have died from typhoid fever; the family history in other respects, was of a negative character. She was brought to the Boston City Hospital February 1st, in the ambulance, having been found by the police in a fainting condition in the street, when on her way to the Dispensary, where she had been under treatment for some days. She reported that her sickness began four weeks before — about January 1st — with languor, general malaise, pains in her bones, and chilly sensations. She had previously, a slight cough, which kept her awake somewhat at night. She kept on with her work for a week, and then gave it up, although she continued to expose herself to changes in temperature, to do some washing, etc. She had amenorrhœa for three months before coming to the hospital, and quite profuse epistaxis two weeks before; had been annoyed by vertigo, and had sweat considerably both by day and by night. She had lost, she thought, a good deal of flesh and strength, but was well developed and very well nourished.

February 1st, the temperature was 101.3°, pulse 120, respirations 40, the heart-sounds were feeble; the resonance over the lungs was normal, but there were very numerous coarse and fine sibilant and sonorous râles over both lungs, front and back; some dyspnœa; no cerebral or intestinal symptoms; urine negative. February 2d. Increased dyspnœa; some cyanosis; profuse perspiration; temperature, 101.2°, A. M., 103.2°, P. M.; respirations, 40, A. M., 48, P. M. February 3d. Same conditions, accompanied by increasing weakness. February 4th. About 6 A. M., after a fairly comfortable night, developed severe dyspnœa, the temperature rising to 105°, the pulse to 138, the respirations 48. Face and finger-tips markedly cyanosed; profuse sweating; perfectly conscious, and continued to take nourishment freely and easily. Number of fine râles much increased, heart-sounds weaker, physical signs otherwise unchanged. Steam was administered at noon, and her condition improved for a time, only to relapse towards evening, and she died about 9 P. M.

DR. W. W. GANNETT, who had made the autopsy, described the appearances found, and showed the specimens, the case being a typical one of acute miliary tuberculosis.

The body was that of a well-developed and remarkably well-nourished woman. In the pia of the under surface of the frontal lobes, were several tubercles. The pericardial surface of the left auricle showed the presence of many tubercles and a circumscribed tubercular pericarditis, evidently an extension from the neighboring portion of the lung. Both lungs were voluminous, of a red color, and very thickly studded throughout with gray, miliary tubercles.

The spleen, kidneys, and liver, showed similar tubercles, and in the spleen were also agglomerated, cheesy tubercles, the size of hemp seeds. The bronchial and lumbar lymph-glands were enlarged, and contained cheesy nodules. The lumbar lymph-glands were the larger, and were evidently the primary focus of infection. The thoracic duct and the abdominal veins were free.

DR. SHATTUCK said that the case suggested some points for discussion, arising from the difficulty of diagnosis. He had sought for the cause of disease in the history of the patient, but without finding it. She could have inherited the disposition from no one, so far as could be learned at the hospital. The great number of coarse and fine râles, unaccompanied by cerebral or intestinal symptoms, was suggestive of bronchitis extending into the smaller bronchi, and she had been much exposed to the weather. Such diffused and constant râles he had never met with before in acute miliary tuberculosis. He had not detected any dullness. Some slight change in resonance or elasticity might have been found by one who believed that it ought to be present; but in any such case, being bilateral, as well as exceedingly slight, it would be extremely difficult to detect. The mutual relations of pulse, temperature, and respiration, are of value in doubtful cases as a means of diagnosis, the respiration of acute miliary tuberculosis being sometimes rapid, out of proportion to the other signs mentioned. The only way, however, of reaching a certainly correct diagnosis in this case, so far as the speaker knew, would have been by an examination of the sputa for bacilli.

DR. GEORGE C. SHATTUCK said that he was reminded by the case, of one seen under his own obser-

vation at the Massachusetts General Hospital, whose symptoms were those of exhaustion and dyspepsia, with dyspnœa, but with little or no fever, or cough, and no physical signs. Death occurred in six weeks after admission, and the autopsy showed tubercles to be uniformly distributed through the lungs, and abdomen so as to effect percussion.

DR. MINOT called attention to a peculiar duskiness of integument of the whole body, which was frequently present in acute miliary tuberculosis of the lungs, probably the result of the slow asphyxia which affected the patient, and which, when present, was of considerable value in the diagnosis. Also to the fact that an eruption on the abdomen, resembling that of typhoid fever, was occasionally found, adding to the obscurity of the diagnosis, and causing the disease to be mistaken for that fever.

DR. R. H. FITZ said that diagnosis is always difficult in cases such as that reported to-night, and is to be made rather from the antecedents of the patient and the course of the disease, than from the physical signs. Without positive evidence of tuberculosis of the choroid or the discovery of bacilli in the secretions, the typhoidal course of the disease with the absence of symptoms of typhoid fever might excite suspicions of the nature of the case. The time necessary for such evidence was wanting in the present instance, and the clinical diagnosis must necessarily remain obscure.

OCULAR SYMPTOMS IN RENAL DISEASE.

DR. H. W. WILLIAMS reported a case seen by him on the day of the meeting, where a young lady, apparently in perfect health, had two weeks previously, lost the power of reading with her right eye, and now found vision slightly impaired in left eye. Her attending physician had not suspected anything more than, perhaps, the need of help by glasses, her vision continuing good at a distance. Examination proved that only the left eye was available for distant vision, having nearly normal acuteness; and the opthalmoscope disclosed a very large amount of albuminuric change in the retina about the optic disc, and the region of the macula lutea in the right eye, and similar considerable changes in the left eye. The urine was found to be loaded with albumen. When questioned, some headache, and not feeling very strong, were the only symptoms discoverable, except those above mentioned.

ACUTE ARTICULAR RHEUMATISM.

DR. JAMES AYER reported a case of acute articular rheumatism, which was of interest because the patient had lived to be eighty-seven, and this was his first attack.

DR. C. F. FOLSOM read a paper on

CASES OF EPILEPSY TREATED WITH BORAX.

Dr. Folsom said, in answer to questions, that he had selected these cases for reporting because, as they had been treated previously by accomplished men, who had, without doubt, paid attention to matters of diet, etc.; therefore, they were good cases in which to compare the results of the borax treatment with other methods. A perfectly monotonous diet is not always better than one more varied, and patients complain of it. Meat need not be absolutely excluded, although the diet must be carefully regulated. A good way is to get an elaborate bill of fare from a large hotel, and mark on that the things from among which the patient may choose. Undoubtedly, diet is an important element in treatment; and yet many observers must have been struck with the fact that certain patients may have attacks when using the greatest care in this respect, and at other times may be free from them while using no care at all, showing that with them, other factors are of greater importance.

DR. J. P. REYNOLDS said that he had supposed that monotony was not of so much importance as the avoidance of sources of irritation in diet. In the form of eclampsia that he sees most of, that of pregnant women, he thinks that sleep and proper attention to the bodily functions, as well as diet, are of great importance.

DR. FOLSOM said, in answer to a question by Dr. Lyman, that it is hard to generalize in regard to the effect of borax on the different forms of epilepsy. Some patients have *le petit mal* for years without having the *le grand mal*. In others, the facts are reversed, and in others, again, both forms occur. Bromide of potassium often diminishes the severity of the attacks of *le grand mal*, and at the same time, increases the number of attacks of *le petit mal*. One of these cases had the milder form of attack twenty times a day, and in her, its severity was diminished by the use of borax.

DR. WHITE inquired as to the constancy of the action of borax on the skin, when taken internally.

DR. FOLSOM answered that in four cases there had been disturbance. Two ladies had itching, with rapid exfoliation of the epithelium in the form of dry scales. One out-patient at the City Hospital gave up taking borax because of a distressing eruption. There was in him, an immense infiltration of the skin, resembling ivy poisoning, but without the brilliant coloring. This all disappeared, and the patient was able afterwards to take ten grains every second day without its returning.

DR. B. F. DAVENPORT asked as to the administration of borax.

DR. FOLSOM said that it is best given in cold water an hour and a half after meals. A few patients take it best in hot water. With either way there is often nausea, but this can be relieved entirely by adding spirit of chloroform, cardamon, or spirit of lavender to the dose. The only unpleasant effect is to the skin, and that is relieved by arsenic.

DR. LYMAN suggested the use of capsules. He thought there was nothing more revolting to take than the bromide, and is glad, on that account, that we have a new drug for epileptics.

DR. FOLSOM said that borax has been used for this purpose for five years at the London Hospital for Epileptics and Paralytics. This hospital has not given up the use of bromides, by any means. So far as he knows, borax was first used *here* at the Boston City Hospital. We must not expect too much from it in a disease in which the prognosis is rather unfavorable.

Some patients have distinct premonitions that an attack is approaching, which may be even visible to others. If such a patient goes to bed, takes five or six grains of calomel, and large doses of bromide and chloral, he may succeed in averting the attack. If, with such premonitions, the attacks come but seldom, there is no need for the continuous use of bromide.

Many patients have an aura for two or three minutes, long enough for them to select a place in which to lie down. Many such patients carry glass capsules, containing m. iii–v of nitrite of amyl, and by its use, some entirely avert the attack.

DR. H. W. WILLIAMS said that he had learned by experience that borax is often adulterated, and that if it is desired to have it pure, it must be bought in crystals.

LOCALIZED AMYLOID DEGENERATION.

DR. FITZ showed for Dr. W. F. Whitney an amyloid tumor resembling a lymph-gland, both in gross and microscopically, which was removed from below the lower jaw by Dr. Porter. Localized amyloid degeneration of the heart, larynx, and conjunctiva, had been reported. Amyloid degeneration of lymph-glands had also been recorded, but he did not recall a lymph-gland tumor in which this was a local process.

PARIETAL THROMBUS OF THE AORTA.

DR. GANNETT showed an unusually good specimen of parietal thrombus of the aorta, about the size of the last two joints of the little finger. It was of the pale variety, and had undergone central softening. The aorta showed a diffuse dilatation to nearly twice the usual diameter, and there were evidences of extensive chronic endaortitis. The individual was seventy-five years of age, and had been confined to bed for three months, as the result of a fracture of the femur.

PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. M. GREEN, M.D., SECRETARY.

DECEMBER 12, 1885, the President, DR. A. D. SINCLAIR, in the chair.

DR. C. P. STRONG read a paper on

RECTAL DISEASE OF UTERINE ORIGIN.[1]

DR. FIFIELD said the reader's success was remarkable, as such cases are usually despaired of: the subject was known and spoken of, however, by writers on rectal surgery. Mr. Allingham has warned all who treat rectal disease to look out for uterine complications, not alone retro-version, but other conditions. Rectal disease may induce uterine disease, and *vice versa*. Inflammatory disease of the bladder is also interdependent on uterine disease. Charles Bell touched on the sympathy of mucous membranes with the rectum, although they are distant from it. So for a long time surgeons have been aware that in diseases of the bladder and urethra, one must look also to the rectum.

DR. BOARDMAN was pleased to hear the matter so fully and ably treated: he could confirm the writer's theory and submit cases illustrative of it. Affections of the bladder are often due to some disease of the uterus, and can only be treated successfully by attention to the latter organ. Simple retro-displacements of the uterus without adhesions are less liable to affect the rectum than when adherent; but a non-adherent uterus may be displaced under the utero-sacral ligaments, and thereby affect the rectum: such cases will often not bear pessaries and are therefore difficult to treat.

DR. BAKER said the paper was in accord with his own practice and experience: he wished that the reader, in a future paper, would consider the effect of loss of the perineal body in the causation of rectal disease. In the treatment of this class of cases which the reader had described, he had sometimes seen the rectal symptoms relieved by packing, strange as it would appear: this relief was due, he supposed, to the resulting improvement in the position of the uterus, and to the diminished congestion effected by the use of glycerine with which the tampons were moistened. He had been struck in some cases of fallopian or ovarian disease, and even in cases of uterine fibroid, by the reference of great pain to the rectum even when it showed no sign of disease. He asked the reader whether he had ever seen cases of proctitis resulting from anterior displacements of the uterus.

DR. STRONG replied that he had occasionally seen rectal disease coincidently with a heavy uterus in a position of anteflexion, when the cervix burrows into the rectum; but as a rule, he thought, anterior displacements will not affect the rectum. In his own experience packing the vagina aggravated, rather than relieved, the rectal symptoms: he could imagine, however, that packing would sometimes have a good effect on the rectum by giving uniform pressure. He was sorry to have been understood to say that no allusions had ever been made to the subject on which he had written: such a statement he had not intended to make; but that in looking up the matter he had found no satisfactory work on the subject. Much more has been written on the relations of the bladder and uterus, than on those of the rectum and uterus.

CAPUT SUCCEDANEUM: CEPHALHÆMATOMA.

DR. FIFIELD spoke on this subject and narrated a case in which, three days after birth, a bloody tumor formed over each parietal bone, unaccompanied by a bony ring: the blood was fluid and absorption was slow. It used to be the practice to incise these tumors, when of long standing, and he had never seen harm follow this treatment: he believed, however, that it was better to let them alone.

DR. C. D. HOMANS said that two cases of double cephalhæmatoma had been reported to the Boston Society for Medical Improvement; one by Dr. J. Homans Sr., and one by Dr. H. C. Haven, three years ago. Both cases got well without treatment. In both cases the ring of bone (so-called) was felt.

DR. BOARDMAN had seen a case of double cephalhæmatoma this year at the Boston Lying-In Hospital: the tumors were let alone and the child died.

DR. WELLINGTON had never seen the double tumor, but saw a single one a year ago, appearing the day after labor, and the child died: the child also had purpura.

DR. W. L. RICHARDSON said that he thought Dr. Fifield had two different conditions confused with each other. The term caput succedaneum was a name applied to the swelling often found in that portion of the presenting part which had escaped the pressure surrounding it. It was due to an obstruction of the venous circulation and was only a venous hyperæmia which in extreme cases might pass into an œdema or even extravasation. The term cephalhæmatoma is only applied to extravasation of blood between the pericranium and cranium. While the caput succedaneum, when present, is always seen at the time of birth, the cephalhæmatoma does not appear until twelve to twenty-four or even forty-eight hours afterwards, the blood being very gradually poured out after the delivery of the head allows of its escape from the minute vessels, which have been torn as the pericranium was separated from the cranium.

[1] See page 151.

The elevated ridge which encircles this form of tumor is at first the edge of the clot; but later, as the process of repair goes on, an inflammatory fibrinous exudation takes place and the circle appears more sharply defined and simulates a bony ridge. He had seen not a few cases of this disease among the three thousand cases at the Boston Lying-in Hospital. Many years ago he opened one and the result was an alarming hæmorrhage and the production of an abscess which refused to heal, and the baby died. Since then he had left them alone and they gradually disappeared within from four to six weeks.

MASSACHUSETTS MEDICAL SOCIETY.

COUNCILLORS' MEETING, WEDNESDAY, FEBRUARY 3.

A STATED meeting of the Councillors was held at the Medical Library, Boston, on Wednesday, 3d inst.

The meeting was called to order at eleven A.M., by the President, Dr. C. D. HOMANS. Eighty Councillors indicated their presence by signing the roll.

APPOINTMENT OF DELEGATES AND COMMITTEES.

On nomination by the Chair, the following delegates to other State Medical Societies were appointed:—

Maine: Drs. R. Amory, E. G. Cutler, of Boston.

New Hampshire: Drs. J. A. Douglass, of Amesbury; O. Warren, of West Newbury.

Rhode Island: Drs. W. Ingalls, of Boston; G. S. Eddy, of Fall River.

Connecticut: Drs. F. H. Hooper, of New Bedford; G. S. Stebbins, of Springfield.

New Jersey: Drs. F. H. Brown, of Boston; J. Seaverns, of Roxbury.

Committees were appointed:—

To Audit the Treasurer's Accounts: Drs. I. H. Hazleton, A. L. Mason.

To Examine the By-Laws of District Societies: Drs. S. D. Presbrey, J. C. White, F. W. Chapin.

AMENDMENTS TO RULES AND ORDERS.

In accordance with notice given at the last meeting, Dr. Draper offered the following which was adopted:

Voted: To amend the Rules and Orders of the Councillors, as follows:—

Paragraph 4 of Section 5, by omitting the words "obtaining . . . at the annual meeting, and also pointing out some mode in which Fellows who do not attend the meeting may obtain them;" and after the word "dinner" inserting the words "and the distribution of," so that the section shall read:

5. The Recording Secretary shall issue, and send by mail to every Fellow, one month before each annual meeting, a circular, which shall contain —

A notification of the time and place of the annual meeting of the Fellows; —

A similar notification of the stated meetings of the Councillors for the whole year, and of the stated meetings of the Board of Censors for the Suffolk District; —

All necessary information concerning the payment of assessments, admission to the annual dinner, and the distribution of the Society's publications; —

The conditions of admission to the Society, and all necessary information concerning the steps to be taken by those desirous of it.

Section 7, by striking out the word "Resignations" in the third line and substituting the word "Finances" by inserting the word "and" before the words "a Committee on Ethics and Discipline;" and by omitting all the words after "Discipline" in the fifth line; so that the section shall read:

7. At the annual meeting of the Councillors, the following Standing Committees shall be appointed: viz., a Committee on Publications, a Committee on Membership and Finances, a Committee of Arrangements for the Anniversary, and a Committee on Ethics and Discipline.

Section 8, by striking out the words "a Committee to examine the library and cabinet; also" in the third and fourth lines; and the words "all of" in the sixth line; so that the section shall read:

8. At the third stated meeting of the Councillors, there shall be chosen a Committee to examine the Treasurer's accounts, on the week preceding the annual meeting, and a Committee to examine the By-Laws of the District Societies, to see whether they conform to the Laws of the State and of the State Society; which Committees shall make their reports to the Councillors at their annual meeting.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

EIGHTIETH Annual Meeting. Held at Albany, February 2, 3, and 4, 1886.

FIRST DAY. — MORNING SESSION. — ADDRESS BY THE PRESIDENT.

The meeting was held in the Common Council Chamber. After prayer by the Rev. W. D. Nicholas, the President, DR. ALBERT VANDER VEER, of Albany, made an address of welcome, in which he suggested that every alternate year the meetings of the Society should be held in some other part of the State than Albany, in order to stimulate local interest, and stated that he favored the idea of semi-annual meetings. He also remarked upon the unfavorable character of the time for holding the meetings at present (the early part of February), on account of its being a season when other organizations were centering temporarily in the capital city; and in the latter part of his address criticized the action of the American Medical Association, in refusing recognition to those who adhered to the code of ethics of the State of New York.

COMMITTEES APPOINTED.

The following committees were appointed: —

Credentials, — Dr. S. H. Freeman, Albany, Chairman.

Business, — Dr. W. W. Potter, Buffalo, Chairman.

President's Address,—Dr. F. R. Sturgis, New York, Chairman.

Invitations, — Dr. W. C. Wey, Elmira, Chairman.

THE COMMITTEE ON LEGISLATION,

Dr. Daniel Lewis, Chairman, reported a bill pending in the Senate and Assembly to establish a State board of medical examiners. Also that bills had been passed empowering the State Medical Society to regulate and control its own membership; permitting medical societies to hold property to an amount not exceeding $100,000, and providing that no member of a medical society should be assessed more than five dollars per annum.

PAPERS READ.

The following papers were read and discussed: "The Curative Potency of Prolonged Sleep," Dr. J. Leonard Corning, New York; "History of a Case of Abscess of the Kidney," C. L. Styles, Oswego; "Abscess of the Kidney," W. S. Ely, Rochester; "Report

of a Case of Empyema," Dr. B. F. Sherman, Ogdensburgh; "The Treatment of Aural Polypi by the Injection of Carbolic Acid," Dr. Herman Bendell, Albany; "Results of the Operation for Convergent Squint," Dr. D. B. St. John Roosa, New York; "Spontaneous Expulsion of a Large Calculus in the Case of a Female aged Sixty-Eight Years," Dr. Harvey Jewett, Canandaigua; and "Vesical Calculi in Female Children, with Cases," Dr. N. A. Powell, Edgar, Ontario.

AFTERNOON SESSION. — DISTINGUISHED VISITORS.

The report of the Committee of Arrangements, DR. S. B. WARD, Chairman, was read, recommending that a large number of physicians from various parts of the State be invited to attend during the meeting, after which the following visitors were introduced and made brief responses: Drs. Wm. Gardner and James Stewart, professors respectively of gynæcology and materia medica in McGill College, Canada, and Dr. T. J. Allen, of Montreal. The

COMMITTEE ON PRIZE ESSAY,

DR. W. W. POTTER, Chairman, reported that only one essay had been submitted, and that in the opinion of the committee this does not give evidence of sufficient original research to entitle it to a prize.

PAPERS READ.

The following papers were read and discussed: "Rheumatic Affections of the Joints," Dr. A. Hadden, of New York; "A Case of Tumor of the Maxillary Antrum and Orbit," Dr. T. R. Pooley, New York; "Infant Feeding," Dr. E. F. Brush, Mount Vernon; "Peritonitis of Infants and Children," Dr. A. Jacobi, New York; "General Arterio-Capillary Fibrosis: Its Relations to Cardiac and Renal Disease," Dr. Alfred L. Loomis, New York; "Ulcerative Endocarditis, Dr. H. R. Hopkins, Buffalo; "The Early Management of Cases of Mental Depression," Dr. Willis E. Ford, Utica; and "Hints on the Treatment of Diphtheria," Dr. J. M. Bigelow, Albany.

EVENING SESSION. — PAPERS READ.

The first paper of the evening was one contributed by Lawson Tait, F. R. C. S., on "Methods of Diagnosis," which was read by Dr. S. B. Ward, of Albany. It was followed by one on "Diseases of the Fallopian Tubes, with Reports of Cases and Characteristic Specimens," by Dr. W. Gill Wylie, New York; after which Tait's operation was discussed by Drs. P. F. Mundé, New York, Wm. Hailes, Albany, W. B. Chase, Brooklyn, W. G. Wylie, New York, and the President. Dr. P. R. Furbeck, of Gloversville, then read a paper on "The Establishment of a State Board of Medical Examiners," which was referred to the Committee on Legislation.

SECOND DAY. — MORNING SESSION. — PAPERS READ.

"Case of Abscess Illustrating the Importance of Drainage," by J. W. Whitbeck, of Rochester; "Lessons in the Management of Club-Foot," by Dr. V. P. Gibney, of New York; "Ozæna," by Dr. John O. Roe, of Rochester; "Medical Testimony and the Hypothetical Question," by Dr. Wm. C. Wey, of Elmira; "Bacteria: Identification and Classification of Species," by Dr. Wm. Hailes, Jr., of Albany; "Acute Nephritis, especially as following Diphtheria," by Dr. A. R. Simmons, of Utica; "Removal of Piece of Iron from Interior of Eye," by Dr. W. F. Mittendorf, of New York; "A New Method of Operating upon Abscesses in the Soft Parts," by Dr. M. J. Roberts, of New York; "The Radical Treatment of Hydrocele and Varicocele," by Dr. E. L. Keyes, of New York; "Fatty Tumors of the Knee-Joint," by Dr. R. F. Weir, of New York; "Excision of the Knee-Joint, with Cases," by Dr. A. M. Phelps, of Chateaugay; and "Burns considered as Wounds and Treated Antiseptically," by Dr. R. T. Morris, of New York.

AFTERNOON SESSION. — REPORT OF COMMITTEE ON PRESIDENT'S ADDRESS.

The Committee on President's address reported that they favored the adoption of an amendment to the by-laws by which all delegates of three years' standing should be admitted to permanent membership on the vote of the society, provided that in case of objection to any name the matter should be referred to the committee on ethics for decision. They did not recommend any increase in the number of delegates or change in the time or place of meeting. They strongly urged the Committee on Legislation to use every legitimate means to ensure the passage by the Legislature of a bill substantially the same as that recommended by the Society at its last session, providing for a State board of medical examiners. They also recommend the appointment of a permanent business committee by the president-elect at as early a period as possible. The report was adopted.

A resolution was offered by Dr. C. H. Porter that a special committee of three should be appointed by the President to report at the next annual meeting in regard to the advisability of making any change in the number and length of term of delegates from county societies.

PAPERS READ.

"The Prognosis and Treatment of True Lateral Curvature of the Spine," by Dr. Newton M. Shaffer, of New York; "The Relation of the State Board of Health to Local Boards," by Dr. Maurice Perkins, of Schenectady; "On the Limitation of the Contagious Period of Syphilis, in Relation to Marriage,[1] etc.," by Dr. F. N. Otis, of New York; "Non-Venereal Syphilis," by Dr. L. D. Bulkley, of New York; "The Treatment of Tertiary Syphilis of the Nose, Mouth and Throat," by Dr. D. H. Goodwillie; "Pin Operation for Deviated Septum," by Dr. W. C. Phillips; "Tubercular Ulceration of the Larynx," by Dr. F. W. Hinkel, of Buffalo; "The Hygiene of the Ear: Based upon the Record of More than 2,800 Cases," by Dr. C. R. Agnew, of New York; "Some Observations on the Treatment of Uterine Displacements in General Practice," by Dr. L. E. Felton, of Potsdam; and "Croupous Tonsillitis," by Dr. L. E. Holt, of New York.

SECOND DAY. — EVENING SESSION. — ANNIVERSARY ADDRESS.

The President, DR. VANDER VEER, delivered the anniversary address in the Assembly Chamber at the capitol; taking for his subject, "The Water Supply of Cities and Villages." In speaking of the supply derived from wells, he said he was impressed with the belief that in the system of driven wells put down by the gang method we had embodied the principle of natural filtration, and that wherever the ground-water

[1] See p. 147 of this Journal.

was of good quality, sufficient quantity and proper depth, and was free from sources of contamination, it furnished by far the safest water short of what might be considered nature's purest supply, spring water.

As the water obtained by this system comes from depths of forty to one hundred feet below the surface, it is very pure, and the supply is steady throughout the year. By other systems the supply is taken from the surface water, and its quality is often impaired by local impurities, while the quantity in different seasons varies with the rain-fall. In this system the water is taken from natural recesses, reservoirs or undercurrents, and there is no exposure to vegetable or animal growths from sunheat and changes in temperature. These wells may be located along ponds and running streams, and if the water be not below their level, it is almost positive proof that the supply is from the rain-fall, springs and natural drainage area of these furnishing wells. The water in these collecting driven wells is naturally found quite free from organic matter, but must be examined carefully as to mineral substances. It is a well know fact that they often derive their supply from currents of water feeding running streams or lakes.

Dr. Vander Veer then took up the method of conveying water to cities from distant points by means of aqueducts, as in the days of the Roman Empire. The great cost of this system stood in the way of its use at the present time; but he said he would venture to predict that it would not be many years before this subject of water supply would be handled by capital and be made to pay a good dividend, and that every city and village in the State would be furnished with a full, wholesome supply of water at a reasonable price.

It was necessary to study the sources and kinds of water. There was scarcely a town in the State without some manufacturing interest to be taken into account. It was easy to talk about having one supply of indifferent water for manufacturing purposes, to control fires, etc., and another for domestic use, but the question of expense and other points occurred; often making such a scheme so intricate as to become altogether impracticable. This one broad principle was safe to act upon, that waters of excessive hardness might, in the human economy, do harm by causing or developing urinary and other diseases, while for domestic and manufacturing purposes they were often exceedingly embarrassing and expensive.

Having dwelt for some time upon the relative properties and effects of hard and soft water, he said that beyond a doubt, spring-water, as procured from deep springs, or as fed to our mountain lakes, is not only the most palatable, but the most wholesome of waters. Next, we may rely upon artesian or driven wells, keeping ever in mind the danger of sewage contamination. Large rivers may be made use of, or smaller streams fed by springs and surface water; but contamination must be guarded against with the greatest care. River water that has a long distance to run may purify itself from sewage and other forms of pollution; but it, together with water from shallow wells, must be looked upon as dangerous, though it may be pleasant to the taste and sight. The dangers of wells, cisterns, and other sources of supply becoming contaminated was adverted to and Dr. Vander Veer traced the history of various epidemics caused by polluted water; dwelling particularly on that at Plymouth, Pa., last year.

In conclusion, he said that America was fortunate in the number of springs of pure water which she possessed, and, from their cheapness, these waters were finding their way into many households for drinking and domestic purposes. Much as we might deplore it, it was a fact that a large proportion of the waters supplied by public works at the present time, required filtration. The water needed for domestic uses, therefore, should be secured, first, by gravity and from mountain streams, lakes, or springs; next, if this were not possible, by the gang syphon driven wells, provided the surroundings were safe and proper in every respect; next by a system of storage, but so arranging the reservoir that proper aëration could be employed; and, lastly, if necessity compelled, and it had to be taken from sources known to be polluted, then a thorough system of filtration should be employed and the water be as completely oxygenated as possible before distribution.

At the conclusion of the President's address,

THE ANNUAL BANQUET

was held at the Delavan House, Dr. S. B. Ward acting as toast-master.

THIRD DAY. — THURSDAY, FEBRUARY 4th. — PAPERS PRESENTED.

Several reports of committees were made; after which Dr. D. B. Simmons, of Poughkeepsie, read a paper on "Leprosy in Japan"; Dr. J. H. Bailey read one on "Hemorrhoids in Pregnancy"; Dr. W. H. Thompson, of New York, one on "The Prevention of Hemiplegia," and Dr. F. C. Curtis, of Albany, one on "Ringworm of the Scalp in Asylums and in Private Practise." The following papers were also presented; some of them being read by title: "Abscess of the Liver," by B. C. Senton, of Whitehall; "Early Ovariotomy" by Dr. T. H. Squire, of Elmira; "Cremation," by Dr. Charles Cary, of Buffalo; "Hæmorrhage after Removal of the Cervix Uterl, with the Galvano-Cautery Wire," by Dr. J. P. Boyd, of Albany; "Migraine," by Dr. F. S. Crego, of Buffalo; "A General System of Districting the State Asylums for the Accommodation of the Acute and Chronic Insane," by Dr. F. Peterson, of Poughkeepsie; "The Emission of Semen as a Means of Diagnosis of Death by Hanging," by Dr. F. N. Hamlin, of Auburn; "The Benefits Arising from Laws Regulating Pharmacy," by Dr. A. B. Huested, of Albany; "The Bacillus Ethicus Medicinalis," by Dr. S. S. Wallian, of New York; "Well-water in its Relation to Microspores," by Dr. F. E. Martindale; "The Free Dispensary System," by Dr. J. W. Howe, of New York; and "The Treatment of Epilepsy," by Dr. C. L. Dana, of New York.

ELECTION OF OFFICERS.

The committee on nomination reported the names of the following gentlemen, who were duly elected:—

President, Dr. Wm. S. Ely, of Rochester.

Vice-president, Dr. Solomon Van Etten, of Port Jervis.

Secretary, Dr. Wm. Manlius Smith, of Syracuse.

Treasurer, Dr. Chas. H. Porter, of Albany.

Honorary Members, Lawson Tait, F.R.C.S., of Birmingham, England; Drs. E. N. Brush and J. G. Richardson, of Philadelphia; Dr. T. Henson, of Copenhagen.

Medical and Surgical Journal.

THURSDAY, FEBRUARY 18, 1886.

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THE REPORT OF THE COMMITTEE OF THE AMERICAN PUBLIC HEALTH ASSOCIATION ON DISINFECTION AND DISINFECTANTS.

AT its annual meeting at St. Louis in 1884, the American Public Health Association appointed a committee, of which Dr. George M. Sternberg was chairman, to investigate and report upon the subject of Disinfection and Disinfectants. Unofficial preliminary reports of their work as it progressed have from time been given to the public, and a "plain, practical paper" for "popular use and distribution" had already been furnished at the request, last March, of the Sanitary Council of the Mississippi Valley, before the appearance two or three months since of the full and final official report.

The subject is one of such importance, and so much needing careful scientific illumination that any serious contribution tending to differentiate more exactly knowledge and ignorance in regard to it is deserving of hearty welcome. At the same time a report emanating from a committee composed of such well known sanitarians as is this, and endorsed by such a body as the American Public Health Association is liable to be widely circulated and the conclusions to be somewhat readily accepted and applied.

Under these circumstances some examination and criticism of the methods by which the conclusions are reached, and upon which the recommendations made are based, seem fairly indicated.

From a biological point of view, the greater part of the work done and all of the results reached are based upon the activity of certain reagents in the destruction of bacterial vitality; the method by which this activity is determined should therefore be most carefully observed and as carefully selected for its ease and precision. In the first place, the method selected by the observers in this instance does not recommend itself for the reason that the culture-flasks employed are difficult of preparation, are clumsy to handle, and have absolutely no advantages in the line of safety against external contamination over the ordinary test-tube plugged with cotton-wool, each being used by skilful manipulators.

Secondly, the method of exposing a given quantity of broken-down beef-tea with a given amount of the "germicide" under trial in unsterilized open vessels, and then transferring a portion of this material to a sterilized culture-medium in a closed vessel does not seem to us to be as precise a method as that of Koch, Miquel, Passet and others, where the germicide is introduced into a bacteria-containing medium in the first place, this material being kept in sterilized and closed vessels all the time.

Thirdly, the use of fluids and fluid culture-media is very strongly advocated by the authors of this report, but if they had felt it worth while to follow the methods most generally in use in this sort of work, by which action their results could be much more easily and definitely compared with those already obtained, very much less would have been said of such and such effects upon "the micrococcus of pus," or "the micrococcus of a vaccine vesicle." The use of solid culture-media would have shown the observers, and through them the readers, what micrococcus of pus they had under observation, whether it was the staphylococcus aureus, or albus, or possibly the streptococcus pyogenis or micrococcus tennis. This point we have now no means of knowing, and yet it is of importance for, until it is *proved* to be the case, we have no right to assume that germicides act in the same way on all of the group of bacteria which seem to be concerned in the pus-forming processes in man.

Another point in the report which is certainly open to objection, is the distinction made — more particularly in the conclusions drawn from the work done "and collated" — between agents to be employed against spore and non-spore-containing material. Such distinctions are very necessary in all experimental work in this line, and in laboratory work, they must unquestionably be very carefully determined. It verges upon the absurd, however, when they are thus made in the "conclusions" of a pamphlet like the one under consideration, which is to be the guide and familiar friend of our Boards of Health, and their deputies and inspectors.

Koch, in his great work upon disinfection, states distinctly, and with perfect truth, that in the present state of our bacteriological knowledge, it is impossible to say what are and what are not spore-producing organisms, and that, therefore, at least for the present, our reliance for general and practical use must be placed upon those disinfectants of known spore-destroying power. Since this statement was made the general knowledge of bacteria has made very great strides in advance, but nothing, with which we are acquainted, gives any more authority than then existed for contradicting the statement. Before we can say that a certain material does or does not contain spores, the kind of bacterium concerned must be determined; then this bacterium must be so well studied that at least the great probability of its not producing spores may be established; and finally, every health inspector, into whose province it comes

to say whether a spore-destroying or non-spore-destroying germicide is to be used, must have so thorough a training in bacteriology that he will not attempt to differentiate species by estimated weight and will, at least, know a spore from a micrococcus, and this latter from a piece of dirt. These results have not yet been attained, and therefore, it seems to be an entirely unnecessary complication, as well as a probable source of very great confusion, that the report should make this distinction in just the way it has been made.

Inasmuch as the specific bacteria of the acute exanthematous diseases, and even of typhoid fever or yellow fever, are as yet merely myths, or at best, only very dimly understood, there is no justification, as the report seems to imply there is, for taking it for granted that the organisms of these diseases do not produce spores, and there is, therefore, no sufficient ground for recommending the use of a non-spore-destroying germicide.

The wisdom of introducing the chapter upon commercial disinfectants is questionable. An instance of the complications to which it may give rise is shown upon page seventeen of the report, and this is probably not a solitary instance. Such investigations can only turn out to the advantage or disadvantage of certain manufacturers; the public, so far as they care about the matter at all, will employ the reagents recommended by the committee in their conclusions, and will have nothing to do with proprietary compounds *unless* they are advertised as being approved by some such authority as this. That great part of the public which does not care, and which prefers the cheapest or prettiest preparation, will certainly not go to any scientific authority for a recommendation or condemnation of what it proposes to use.

In the preface to the report (p. xii.) it is stated that "it would be desirable to test each disinfecting agent upon a variety of pathogenic organisms," and that this is "a task which should follow the more general study which we have made." The reverse of this is true, of course. A thoroughly scientific basis upon which measures for disinfection may be founded can only be reached after the investigation of each pathogenic organism has been made. This being done, then, and then only, will it be possible to say that the most effective germicidal agents are known. In order to reach such a result, however, the knowledge of pathogenic bacteria must be widely extended, and many of the diseases now seemingly taken for granted as being due to bacterial activity must be proved to be such, and not so classed by guess-work.

Biologically, therefore, it can only be said of this report that it furnishes merely a preliminary to something which must be very much wider in scope and more thorough in execution, before the conclusions advanced can be accepted as true. In other words, the work done can be considered as merely introductory and the results cannot be accepted as final — the more so as in the few cases where comparison between this work and that of Koch, Miquel, and others is possible, there are discrepancies in results which need explanation, and the reasons for which might be more clearly determined if the same methods of observation had been employed in all cases.

There might easily have been a little more distinct acknowledgment of the part played by the work of other observers in furnishing the grounds for the "conclusions" of the report than anywhere appears.

From a chemical point of view, the report of the Committee embodies the results of numerous investigations relating to the practical application of such disinfectants as have been found efficient, their cost, chemical relations, effects upon furniture or fabrics and their possible poisonous effects.

Experiments made with the proprietary disinfectants show that a large number of these are not to be depended upon for disinfectant purposes, though nearly all are perhaps more or less useful as antiseptics or deodorizers. The obvious conclusion to be drawn from these experiments is that it is much safer to employ as a disinfectant some agent, such as corrosive sublimate or a hypochlorite, the nature and strength of which is known, than to make use of preparations the composition of which is unknown and very likely variable.

The results of analyses made to determine the value of calcium hypochlorite (chloride of lime) and Labarraque's solution of sodium hypochlorite as disinfectants are interesting, since, in accordance with our present ideas, these substances are chemically among the most efficient agents at our disposal for this purpose, when of sufficient strength; their value depending upon the amount of available chlorine they contain. Preparations of sodium hypochlorite, bought in the open market were found to vary greatly in the amount of available chlorine; two samples containing less than one per cent. These variations are not necessarily due to any fault in manufacture, but rather to a gradual decomposition upon keeping. The figures given show the necessity of always determining the amount of available chlorine in these substances, before making use of them for disinfecting purposes. The sodium salt was found to be more stable when prepared by passing chlorine gas into a solution of caustic soda than when prepared according to the U. S. P. The strength of the preparation of chloride of lime was found to be satisfactory as a rule. This substance should contain from twenty to thirty-five per cent. of available chlorine.

A number of interesting experiments are described in connection with the investigations of sulphur dioxide. One of the most important of these, from a practical point of view, refers to the action of this agent upon fabrics. The strength of the fibre was impaired, while as to color only five of one hundred and sixteen samples were affected.

Most of the investigations to which we have briefly referred, together with some others relative to the action of the mineral acids and corrosive sublimate on metals are essentially repetitions of investigations pre-

viously made by others, and do not really teach us much that is new. They are practically important, however, and the committee is justified in directing the attention of health officers and the public to them.

Experiments made with reference to the danger of the passage of mercuric chloride (corrosive sublimate) from cesspools and vaults through the soil into wells, are unsatisfactory and hardly justify the conclusion reached, that the fear of poisoning the water is groundless. As corrosive sublimate promises, for a time at least, to be the fashionable disinfectant this question becomes a very important one, and we think is worthy of further investigation.

We have not hesitated to criticise this report where criticism seemed called for in the interest of the advancement of scientific hygiene and especially of applied bacteriology. But, on the other hand, we desire to express a genuine appreciation of the zeal and activity displayed by the committee in discharging its difficult duties.

VENUS BEFRIENDS ÆSCULAPIUS.

To the medical man of serious tastes, who never, in whatever circumstances of frivolity he may find himself, forgets that he belongs to the gravest of professions, and who lets slip no opportunity of perfecting himself in the principles of his art, the prevailing mode in ladies' evening toilettes offers great possibilities.

Dragged, perhaps, unwillingly from his sterner duties by the demands of social life, his time is yet not thrown away. Should surgery be his delight, he finds abundant facilities in the drawing-room or at the opera, for viewing and reviewing topographical anatomy. The triangles of the neck are often most freely demonstrated by the very class of subjects in whom the anatomical landmarks are most clearly visible. There is more difficulty in studying the axillary space in its completeness, though its anterior and posterior boundaries, the pectoralis major and the latissimus dorsi, can usually be well made out. The advance of fashion has, unfortunately, not as yet brought under observation the other regions of great anatomo-topographical interest. While mechanically paying out his share of the small coin of social converse, the surgeon is really making the incisions for ligature of the subclavian, the brachial, and the innominate; he is considering how the appearances would be changed in case of a fracture of the coracoid process, or a dislocation of the humeral head, or of the sternal end of the clavicle. Perhaps he is planning out an operation for the ablation of the mammary gland. Who knows?

If chest diseases are his specialty, he lays out the boundaries of the pulmonary lobes, wonders if the cardiac dullness extends further to the left than the line which his practised eye describes as the normal boundary, and upon the lady who stands in front of him, determines the proper point to enter a needle for thoracentesis. These opportunities are not to be lightly overlooked by any.

MEDICAL NOTES.

— The hospital physicians and surgeons of Paris, to the number of one hundred and six, have signed a petition addressed to the Minister of the Interior, praying that the *religieuses* in the hospitals to which they are attached may be retained. In the present temper of the French people, it is thought that this petition will not be granted.

BOSTON.

— The late Henry P. Kidder left among his public bequests, reversionary legacies of $10,000 each to Harvard College and the Massachusetts General Hospital and $3,000 to the Children's Mission to the Children of the Destitute. Mr. Kidder was a State trustee of the Massachusetts Hospital.

— Mr. Nathaniel Thayer has been elected by the corporation a trustee of the Massachusetts General Hospital. Mr. David P. Kimball has also been appointed by the Governor a trustee on behalf of the State, to succeed the late Henry P. Kidder.

— In declining an invitation to dine at the Hotel Brunswick with the New York Odontological Society last week, Dr. Oliver Wendell Holmes wrote, "I often think of the forlorn condition of some of the great personages of history in the days when there were no dentists, or none who would be recognized as such by the dental artists of to-day. Think of poor King David, a worn-out man at seventy, probably without teeth, and certainly without spectacles. Think of poor George Washington, his teeth always ready to drop like a portcullis, and cut a sentence in two. See him in Stuart's admirable portrait, his thoughts evidently divided between the cares of empire and the maintenance of the *status quo* of his terrific dental arrangements. Think of Walter Savage Landor's melancholy complaint that he did not mind losing his intellectual faculties, but the loss of his teeth he felt to be a very great calamity. I will venture to propose, then, the dental profession and their association as its worthy representative: It has established and prolonged the reign of beauty; it has added to the charms of social intercourse and lent perfection to the accents of eloquence; it has taken from old age its most unwelcome feature and has lengthened enjoyable human life far beyond the limit of years when the toothless and purblind patriarch might well exclaim, 'I have no pleasure in them.'"

NEW YORK.

—A second physician has fallen a victim to typhus fever in the discharge of duty in connection with the epidemic of that disease in the penitentiary at Albany. Dr. James A. McCoughlin, one of the volunteer staff of physicians during the epidemic, died February 12th, after an illness of about a fortnight. There are now only three cases of typhus among the prisoners in the penitentiary.

— Dr. John S. Billings, of Washington, delivered the first of a popular course of lectures at Columbia College, February 8th. His subject was "The Uses

and Dangers of Micro-organisms," and in the course of it, he expressed his regret that the study of microbes tended almost entirely to the investigation of the mischief which they wrought. "But they do more than that," he said, "they are everywhere, and their function is that of the unbuilders. We live at the bottom of a great gaseous ocean, the atmosphere, of which nitrogen gas is the chief component. This is a 'mugwump' sort of a gas, which is generally neutral, but on occasions, makes serious explosions. This gas is absorbed by plants in building up their structure, but when a plant dies or a tree falls, these organisms unbuild the structures and make nitrates, which ferment wine and fruit, purify rivers, and prevent diseases." Having mentioned that the study of such organisms had taught men to ship and carry fresh meats with safety, and, in certain instances, to protect individuals against diseases, one attack of which prevented others, he concluded with an appeal for more laboratories and more investigators in this department of sanitary science.

— Dr Alfred C. Post, the oldest and one of the most distinguished surgeons of New York, died of cystitis, after a few days illness, on the 7th of February in the eighty-first year of his age. He was the son of Joel Post, a prominent merchant, who occupied as his country-seat the property on the Hudson known as Claremont, now forming a part of the Riverside Park, and embracing the site of Gen. Grant's tomb. He was graduated from the academical department of Columbia College in 1822, and from the College of Physicians and Surgeons in 1827. He then went to Europe to further prosecute his medical studies, and after two years spent in Edinburgh, Paris, Berlin and other centres, began the active practice of his profession in his native city, and industriously continued it until the week before his death, a period of nearly fifty-seven years. From the first, he devoted special attention to surgery, in which department of medicine he quickly acquired a distinguished reputation, and as early as 1836 was appointed one of the surgeons to the New York Hospital. He was one of the founders of the medical department of the University of the City of New York, and at the time of his death was President of the Medical Faculty and Professor emeritus of Clinical Surgery in that institution. He was at one time President of the New York Academy of Medicine, whose meetings he attended with great regularity until his last illness, and also a member and officer of many other medical societies. Dr. Post was always noted for his devoted piety, and gave largely of his means and time to various charitable and religious associations with which he was connected. One of his sons is a practising physician in New York, and another, who is connected with the Presbyterian Mission at Beirut, Syria, has also won distinction as a surgeon. The funeral services, which was held at the Presbyterian Church of the Covenant, where Dr. Post was an elder, were attended by a very large number of the profession.

— At a meeting of the Clinical Society of the New York Post-graduate School and Hospital, held January 25th, "Hydrophobia and Its Prevention," was the subject of discussion. After a few introductory remarks by its President, Dr. D. B. St. John Roosa, Dr. Wm. A. Hammond said that those who have devoted their time to the study of nervous diseases know that there is such an affection as hydrophobia, and that it is incurable after it has once become developed in the system. Concerning methods of prevention, he stated that many cases of persons bitten by dogs, supposed to be mad, had come under his observation, and that in each instance he had immediately taken steps to ascertain whether or not the animal which had inflicted the bite was really suffering from hydrophobia. But whether this could be done or not he excised or cauterized the bitten part, first having applied the cupping glass, or caused the patient or some one else to apply his lips to the wound and suck out the poison. Provided that there was no abrasion of the mucous membrane of the mouth, this was unattended with danger to the person doing it. He also applied ligatures when this was possible; and he said that when all these precautions had been taken within a reasonable time after the patient had been bitten he had never known hydrophobia to develop. Believing that the disease could be communicated to a human being only by means of the saliva, he had always held that this was not possible through the blood. He has inclined, therefore to doubt the efficiency of Pasteur's method of inoculation; but at the same time he did not feel at present that he was in a position to express a definite opinion in regard to the matter.

Dr. Hammond quoted the statistics of 534 reported cases of hydrophobia, which showed that in 353 of these the lapse of time between the bite and the development of the disease was less than three months; while in only 30 was it more than six months. He believed, therefore, that the stories of persons being attacked by hydrophobia years after having been bitten were altogether mythical; and contended that there was not on record a single well-authenticated instance in which the patient died from the bite of a mad dog a year after having been bitten. Not more than one-third of the persons bitten by dogs actually affected with the disease contracted hydrophobia. In the case of the Newark children there was no proof that the dog had it, and there had been much useless agitation in the community regarding the matter. Dr. C. L. Dana, A. H. Smith, T. E. Satterthwaite and F. R. Sturgis also took part in the discussion.

Miscellany.

"GOD SAVE THE ALUMNI ASSOCIATION OF COOPER MEDICAL COLLEGE."

The *Pacific Medical and Surgical Journal*, confused, no doubt, by the similarity of its title to that of this *Journal*, reproduces in a recent issue, two of our editorial articles without credit. Sedulous to

avoid falling into a similar error, we take pleasure in acknowledging our indebtedness to our contemporary for the report of a presidential address before the Alumni Association of Cooper Medical College, which contains, couched in the elevated diction of the Occident, a remarkable tribute to the medical profession in general, and to the founder of the College in particular.

"Every man entering into and acting up to the tenets of the medical profession," we are told, "is elevated inestimably above the rest of mankind, because it not only affords the opportunity of doing good, which is nothing in comparison to the other virtue it permits us to acquire if we possess it not, namely, the ability to suffer the grossest ingratitude from man, and the vilest slander from garrulous woman and be resigned. How few of us would ever have been able to possess this immense privilege, if there had existed no one to found a medical college at the time Professor E. S. Cooper conceived the idea of undertaking the immense task, which he brought to so successful an issue."

The gentlemen assembled on this occasion had met for six years as the Alumni Association of the Medical College of the Pacific, but on the demise of that institution, they convened to start the alumni institution of Cooper Medical College, "the young giant, rising pure and mighty." It is a little difficult to see how the death of the alma mater, even if she were less pure and mighty, should constitute her sons at once alumni of the young giant. Some filial reminiscences are indulged in of the impurer and feebler institution, and of the peaceful days before the plunge was made by her sons into the "raging, seething vortex of practice in which many, many sink, never to rise." It is pointed out with considerable plausibility that "It would be unnatural, were we to witness the demise of our dearest friend without experiencing the deepest regret." Also, that: "It is impossible to stand at the bier of a departed friend without anguish."

But after thus setting up the bier for the departed, the orator turns with new courage to worship the rising luminary. *Le roi est mort: vive le roi.* "The Alumni Association of the Medical College of the Pacific is dead; God save the Alumni Association of Cooper Medical College!" To which latter aspiration may we be permitted earnestly to add, "Amen!"

ACTION OF SUNLIGHT ON MICRO-ORGANISMS.

AT the meeting of the Royal Society, on January 14th, reported in the *Lancet*, January 30, a paper on the "Action of Sunlight on Micro-organisms," was read by Dr. Downes, Medical Officer of Health for the Chelmsford combined districts. In previous papers to the Society in 1877, 1878, and 1879, the author, conjointly with Mr. T. Blunt, showed that sunlight was fatal to saprophytes by a process of hyperoxidation thereby induced. In this process, the more refrangible rays were the most active. In the course of the research, two other facts of importance also came out. It was found that in the presence of free oxygen, the molecule of oxalic acid might be entirely resolved into water and carbonic acid by the action of light, more especially of the more refrangible rays; $C_2O_4H_2 + O = 2\,CO_2 + H_2O$. Further, it was discovered that the alterative ferment of cane sugar (a representative of the singular and important bodies, the diastases, which play so important a part in animal and vegetable economy), was oxidized by sunlight. These investigations have not, as yet, been repeated as a whole, but each point put forward in them has now been confirmed by independent observers.

After a reference to the results obtained by Professor Tyndall in 1881, and by others, the author summarizes the recent work of Professor E. Duclaux, who finds that micrococci are apparently far more sensitive to sunlight than the spore-forming bacilli. Dr. Downes and Mr. Blunt, in their original memoirs, had noted the variation of resistance of different organisms — for example, of the hypho- and saccharo-mycetes — as compared with the ordinary putrefactive bacteria; and the former now describes a specially resistant form of bacterium, resembling, but not identical with, the ascobacteria of Von Teighem. Duclaux coincides with Downes and Blunt in regarding the process as an oxidation, and confirms their results as to the destruction of diastase by sunlight.

In refuting the conclusions of Dr. Jamieson, an Australian observer, that the injurious effect of sunshine on micro-organisms is simply a result of heat, Dr. Downes gives an account of recent experiments of his own, which indicate that a similar action, though, of course, in a less degree, is exercised by diffused light. He concludes with a reference to the well-known observations of Pringsheim on the destruction of vegetable protoplasm by light, and claims them as evidence of the truth of his former generalization that the hyperoxidation of protoplasm by light is a general law, from the action of which living organisms are shielded by a variety of protective developments of cell wall, aggregation of tissue or coloring matter, and in other ways.

POISONING AN INFANT BY ITS MOTHER'S MILK.

AT the August meeting of the Medico-Legal Society of France, an interesting case of arsenical poisoning of an infant by *M. Brouardel* was presented which is thus reported in the *Medico-Legal Journal:* —

A man having failed in an attempt to purloin property from his wife and stepmother, was suspected of having attempted to poison his wife with *arsenic*, and of having caused the death of his nursing child.

The child had what appeared to be an attack of cholera infantum, several days after the mother had been similarly attacked. As it was in the hot season, nothing unusual was thought of it. In November following, the mother and stepmother was similarly affected, when suspicion fell upon the husband.

The wife claimed to have found a white powder in his pocket, which proved to be arsenic acid (1. acide arsenique.) Being called, I decided to bring the body of the child to Paris, exhumed after it had been buried six months.

Decomposition was so far advanced that I was unable to dissect the viscera, and it was therefore necessary to analyze the entire cadaver.

Its weight was two and one-half kilog. and it contained five millig. of arsenic.

I was convinced that the arsenic did not come from the linen around the body, or from the earth surrounding the coffin.

It was necessary, also, to determine how far the arsenic could be eliminated from the mother through

her milk — a subject that had not been seriously studied at that time.

M. Gabriel Pouchet made some very conclusive experiments in that line. He gave to some nursing mothers in the Hôpital Saint Louis, some drops of Fowler's solution (2–12), and found that under these conditions the mother's milk contained a relatively considerable quantity of arsenic. Thus the milk of one mother, who took eight millig. per diem for six days, contained one millig. per one hundred gr. But this does not prove that it would have shown the same results if the arsenic had been given in a large dose, and there was no definite way to clear up this point, except by tests upon the female of animals, and even these experiments were not conclusive, as animals presented extremely variable susceptibility to arsenic.

It was ascertained by these researches that milk is a channel with decided predilection for arsenic, and that it would not be prudent to administer this agent to nursing mothers.

In the particular case in question, I certified that the body of the infant contained enough arsenic to kill a child a year old, and that it was probable, but not positive, that the vehicle by which the arsenic was communicated to the child was the milk from its mother's breast.

Neither the defence nor the prosecution seemed to comprehend what was fairly inferrable from this decision, and the man was condemned to twenty years hard labor.

Correspondence.

HUMANIZED VIRUS.

MR. EDITOR, — As Dr. Chapin started this discussion, I must claim my privilege of bringing it to a conclusion, although I desire to add but little to what I have already said. The position taken by him is, that we must accept as a thoroughly proved fact the startling proposition that, owing to some occult influences peculiar to the locality, the long humanized virus of vaccinia has been preserved in Providence in a state of almost pristine excellence unparalleled in any other part of the known world. One must not for a moment question this because forsooth by so doing he casts a doubt, not upon the impossibility of any chance of error, but upon the personal veracity of certain local health officers, for whose infallibility Dr. Chapin vouches. Any argument based upon universal experience and the writings of the most eminent observers is to have no weight whatever. Certainly no farther discussion is possible under these conditions. I do not expect or wish any one to take my individual dictum in this matter. There in nothing novel or original in what Dr. Chapin is pleased to call my "unfounded assertions" and "gratuitous assumptions," as a very cursory study of the authorities will show. The matter at issue does not in the slightest degree affect my "business," nor shall I ever permit myself to be driven from the discussion of a purely scientific question by any such ungenerous slurs.

Very respectfully,

27 Dudley St., Feb. 13, 1886. S. C. MARTIN, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING FEBRUARY 6, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Lung Diseases.	Typhoid Fever.	Diphtheria and Croup.	Scarlet Fever.
New York	1,340,114	612	257	15.52	20.32	.32	7.52	2.40
Philadelphia	927,985	369	106	9.45	12.05	2.16	5.40	1.08
Brooklyn	644,526	280	99	18.36	24.48	1.36	8.28	8.84
Chicago	632,100	—	—	—	—	—	—	—
Boston	390,406	146	38	8.92	21.24	1.37	5.48	—
St. Louis	408,520	143	59	10.50	—	.70	2.80	1.40
Baltimore	400,000	—	—	—	—	—	—	—
Cincinnati	272,400	—	—	—	—	—	—	—
New Orleans	234,000	109	27	11.16	9.30	.93	7.44	—
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	80	23	8.75	18.75	1.25	2.50	2.50
Pittsburgh	180,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	—	—	—	—	—	—	—
New Haven	62,882	—	—	—	—	—	—	—
Charleston	52,286	38	15	2.63	7.89	—	2.63	—
Nashville	54,400	18	6	—	16.66	—	—	—
Worcester	68,383	21	5	14.28	9.52	—	9.52	—
Lowell	64,051	25	9	28.00	12.00	—	16.00	12.00
Cambridge	59,660	14	4	14.28	14.28	—	—	—
Fall River	56,863	18	6	5.55	11.11	—	5.55	—
Lynn	45,861	—	—	—	—	—	—	—
Lawrence	38,825	—	—	—	—	—	—	—
Springfield	37,577	13	2	15.38	15.38	—	7.69	7.69
New Bedford	33,393	13	4	7.69	—	—	7.69	—
Somerville	29,982	1	—	—	—	—	—	—
Salem	28,084	14	—	7.28	—	—	7.28	—
Holyoke	27,894	11	7	36.36	9.09	—	27.27	9.09
Chelsea	25,709	—	—	—	—	—	—	—
Taunton	23,674	2	1	—	50.00	—	—	—
Haverhill	21,795	6	2	16.66	50.00	—	16.66	—
Gloucester	21,713	7	2	—	—	—	—	—
Brockton	20,783	10	1	—	—	—	—	—
Newton	19,759	6	2	—	—	—	—	—
Malden	16,407	—	—	—	—	—	—	—
Fitchburg	15,375	—	—	—	—	—	—	—
Waltham	14,609	4	—	—	—	—	—	—
Newburyport	13,716	4	2	50 00	—	—	50.00	—
Northampton	12,896	5	1	20.00	20.00	—	—	—
92 Massachusetts Towns	—	35	6	11.44	8 58	—	11.44	—

Deaths reported 1,994: under five years of age 684; principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 262, lung diseases 311, consumption 302, diphtheria and croup 131, scarlet fever 38, typhoid fever 21, whooping-cough 21, diarrhœal diseases 19, malarial fever 13, erysipelas nine, cerebro-spinal meningitis four, measles two, puerperal fever two, small-pox one, typhus fever one. From whooping-cough, New York 11, Brooklyn four, Baltimore and Charleston three each. From diarrhœal diseases, New York eight, Brooklyn four, Boston and New Orleans two each, District of Columbia, Nashville and Cambridge one each. From malarial fever, New York four. Baltimore three, Philadelphia and Brooklyn two each, New Orleans and District of Columbia one each. From erysipelas, New York and Brooklyn three each, Boston, Cambridge and Northampton one each. From measles, New York and Baltimore one each. From puerperal fever, New York and Baltimore one each. From typhus New York, one each. From small-pox New York one.

In 109 cities and towns of Massachusetts, with a population of 1,226,634 (population of the State 1,941,465), the total death-rate for the week was 14.25 against 16.59 and 18.23 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,033,817, for the week ending January 23d the death-rate was 22.4. Deaths reported 3,906: infants under one year of age 869; acute diseases of the respiratory organs (London) 477, whooping-cough 159, measles 100, scarlet fever 38, diphtheria 38, diarrhœal 31, fever 38, small-pox (Liverpool) three.

The death-rates ranged from 10.4 in Birkenhead to 30.4 in Preston; Birmingham 23.4; Blackburn 30.0; Hull 21.8; Leeds 22.9; Leicester 16.1; Liverpool 26.3; London 21.9; Manchester 24.9; Nottingham 26.1; Portsmouth 20.7; Sheffield 23.0.

In Edinburgh 19.3; Glasgow 28.9; Dublin 29.6.

For the week ending January 23d in the Swiss towns, there were 40 deaths from lung diseases, consumption 33, whooping-cough eight, small-pox seven, diphtheria and croup seven, malarial fever one, typhus fever one.

The death-rates were: at Geneva 22.2; Zurich 15.3; Basle 17.0; Berne 31.0.

The meteorological record for week ending February 6, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps: —

Week ending Saturday, Feb. 6, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,...31	29.745	26.3	31.6	19.2	63.0	59.0	90.0	70.7	W.	S.W.	W.	14	11	5	C.	F.	N.	—	—
Monday,.. 1	29.897	22.8	30.0	15.3	82.0	61.0	74.0	72.3	W.	N.W.	W.	9	8	12	O.	C.	C.	—	—
Tuesday,.. 2	30.105	17.5	27.3	9.9	65.0	48.0	65.0	59.3	N.W.	W.	W.	14	15	10	C.	C.	C.	—	—
Wednes,.. 3	30.244	11.7	18.2	8.6	65.0	57.0	89.0	70.3	N.W.	N.W.	N.	13	9	17	O.	O.	N.	—	—
Thursday, 4	30.009	3.6	10.6	-1.8	91.0	62.0	72.0	75.0	N.	N.E.	N.	25	20	22	O.	O.	C.	—	—
Friday, ... 5	30.270	-0.2	5.7	-6.6	70.0	56.0	69.0	65.0	N.W.	N.W.	N.W.	18	24	15	F.	C.	C.	—	—
Saturday,. 6	30.280	10.2	17.0	-2.9	54.0	57.0	67.0	59.3	W.	W.	S.W.	12	7	10	C.	O.	O.	16.0	0.16
Mean, the Week.	30.079	13.1	20.0	1.4				67.4											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM FEBRUARY 6, 1886, TO FEBRUARY 12, 1886.

TILTON, HENRY R., surgeon and major (Fort Wayne, Mich). Granted leave of absence for two months, to commence on or about March 1, 1886. S. O. 8, Division of the Atlantic, February 9, 1886.

BROWN, H. E., major and surgeon. Granted leave of absence for six months, on surgeon's certificate of disability, with permission to leave the Department of the Missouri. S. O. 29, A. G. O., February 4, 1886.

WHITE, ROBT. H., captain and assistant surgeon. Granted two month's leave of absence, to take effect when his department commander may think proper. S. O. 29, A. G. O., February 4, 1886.

SHANNON, WM. C., captain and assistant surgeon. Ordered for duty at Fort Warren, Mass., relieving Assistant Surgeon John M. Banister, who will return to his proper station (Fort Adams, R. I.) S. O. 27, Department East, February 6, 1886.

EDIE, GUY L., first lieutenant and assistant surgeon. Ordered for field duty in New Mexico with troop "K," 8th Cavalry. S. O. 23, Division of the Missouri, February 8, 1886.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE FOR THE THREE WEEKS ENDING FEBRUARY 6, 1886.

BENNETT, P. H., assistant surgeon. Died at Detroit, Mich., February 3, 1886.

WATKINS, R. B., assistant surgeon. To proceed to Detroit, Mich., for duty, February 3, 1886.

PETTUS, W. J., assistant surgeon. Appointed an assistant surgeon, February 5, 1886. Assigned to duty at New Orleans, La., February 6, 1886.

RESIGNATIONS.

H. J. Bigelow, M.D, has resigned his position as surgeon to the Massachusetts General Hospital. His resignation has been accepted by the trustees and he has been made surgeon emeritus with five beds placed at his disposal.

George C. Shattuck, M.D, has resigned as visiting physician to the Massachusetts General Hospital and has been appointed consulting physician.

APPOINTMENTS.

A. T. Cabot, M.D. and M. H. Richardson, M.D., have been appointed visiting surgeons to the Massachusetts General Hospital.

THE LATE DR. F. H. LOMBARD.

At a meeting of the Obstetrical Society of Boston, held February 13, 1886, the following minute was unanimously adopted and ordered to be spread upon the records:

The Society wishes to express its deep sense of loss in the untimely death of Dr. Frederic Howard Lombard. Only a few weeks have elapsed since his unanimous election to membership; but on two occasions he presented to the Society, by invitation, communications of more than usual value and interest. These papers evinced his marked abilities as a careful and intelligent observer, a conscientious practitioner, and a clear and vigorous writer.

He was especially interested in the pursuit of those departments of medicine, the knowledge of which it is the object of this Society to cultivate, and after a careful preparation at home and abroad he had already achieved success in the practice of his chosen specialty.

He held appointments at the Boston Dispensary and the Free Hospital for Women, and had rendered material service to the Boston Lying-In Hospital, with which during two summers he was temporarily connected. He was much interested in the teaching of obstetrics, and his work in that department of the Summer School was conducted with the same ability and success which characterized his other undertakings.

Manly, courteous, kindly, and upright in all his dealings, he was beloved by his patients and respected by his professional brethren.

SOCIETY NOTICES.

NORFOLK DISTRICT MEDICAL SOCIETY.—A meeting for Scientific Improvement will be held at Room 7, Palladio Hall Building, corner of Warren and Dudley Streets, Roxbury, February 23d, at 7.45 P.M. Communications: I. "A Case of Femoral Aneurism," C. A. Bemis, M.D. II. "Epistaxis, with Cases," C. W. Sparhawk, M.D. Members of other Districts are cordially invited to be present and participate in the discussions. Refreshments will be served after the meeting.

S. ALLEN POTTER, M.D., *Secretary*.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT. — A regular meeting will be held at 19 Boylston Place, Monday, February 22d, at quarter of eight, P.M. Reader: Dr. F. W. Hooper. Subject: "Adenoid Vegetations in the Naso-Pharyngeal Cavity." Report of the Committee appointed in consequence of Dr. Field's paper on "The Appointment of Medical Examiners." Medical Examiners of Massachusetts are invited to be present.

E. M. BUCKINGHAM, *Secretary*.

Original Articles.

A CASE OF CONGENITAL CAVERNOUS LYMPHANGIOMA OF THE BACK.

BY C. B. PORTER, M.D.,
Surgeon to Massachusetts General Hospital.

THE patient, an infant four months old was brought to my office for examination and advice. Three pedunculated tumors were attached to the median line of the back between the third to sixth dorsal spines. One was the size and shape of a large sausage with narrow pedicle springing from near the middle. The other two were much smaller and more sessile. All were soft and more or less compressible, apparently giving slight impulse during crying, producing pain when handled as evinced by crying. The two smaller ones translucent, the larger one dark and dusky. The mother stated that this had been translucent, but of late had become dark and angry looking, and much more sensitive when the child was bathed or moved, and it looked at one point as though it was about to ulcerate. The normal skin extended a short distance up the pedicle and then ended in a distinct line, the sac of the tumors looking like thickened serous membrane. The child was so fat that it was impossible to determine whether or not the arches of the vertebræ were incomplete. There was no paralysis, the child making all motions in a perfectly natural manner. The bodily functions unimpaired.

The child breathed, nursed, slept, urinated and defecated in a healthy manner. The mother stated, however, that the child was becoming more and more peevish, crying when the larger tumor was handled, and that it seemed more sensitive than at first, and that the color had changed.

Recognizing the uncommon seat and also the rarity of multiple character of the deformity, I nevertheless thought that I had to deal with multiple spina bifida. The character of the sacs; their translucency; the compressibility, the contents apparently receding under pressure causing crying, and redistension. All combined made it probable that there was a communication with meninges of the cord. The friends desired operation, understanding fully the dangers. I consented to operate, fearing that the large tumor was soon to open by ulceration of the sac. The two important indications were:

First, to prevent draining away of the cerebro-spinal fluid, and to meet this I proposed to ligature the pedicle subcutaneously by silver wire.

Second, to prevent extension of the inflammation from wound to meninges, this to be prevented as far as possible by thorough antiseptic precautions.

The operation was performed October 16, 1884. The child being etherized, the largest tumor was surrounded at its base by a silver wire passed subcutaneously; this was twisted tight. The tumor was then punctured by a small trocar to draw off and preserve the fluid. Very little fluid escaped, but by firm pressure a few drachms were evacuated. The tumor was then cut off, no fluid escaped from the proxinal end of the pedicle. The skin was brought together by silk sutures making a linear wound about one and one-half inches long. The two smaller tumors were treated in like manner except that the pedicles were so near together that they were both included in the same wire ligature. The wounds were treated in the most thorough antiseptic manner throughout, dressed with iodoform and carbolic gauze, with compression. The child did well up to the eighth day. The silver ligatures were removed on the fourth day, the superficial wounds having united by first intention except a small part of one, all sutures removed the seventh day. On the eighth day the child commenced to have frequent painful discharges from the bowels, the milk being passed in small lumpy curds undigested with mucus and some streaks of blood, marked tenderness of abdomen. The thighs drawn up, complete anorexia, the child refusing the breast most of the time. This condition continued with more or less amelioration till the twelfth day, when the child died exhausted. The wounds were healed except a small granulating surface size of a pea bean. There were no convulsions. The cause of the muco-enteritis of which the child died, seemed to me to be due possibly to some change in the mothers' milk, induced by care, anxiety for the well being of the child and loss of sleep, as she insisted on being almost constantly with the child, holding it most of the time in her lap, although a nurse was in attendance desirous of relieving her. Dr. Belt, of South Boston, very kindly saw the child a number of times with me and in my absence Dr. Gannett examined the tumors and reports them to be typical cavernous lymphangiomata.

TWO CASES: OPERATION FOR THE CURE OF SPINA BIFIDA; AND FOR THE RADICAL CURE OF HERNIA.[1]

BY E. H. BRADFORD, M.D.,
Surgeon to Boston Children's Hospital.

THE patient was a fairly-nourished infant five months old, presenting a cystic tumor in the lower cervical region. The tumor presented all the characteristics of a spina bifida, which did not increase when the child cried, and did not diminish on pressure. The inference was that the communication, if any, with the spinal cord was small. The tumor was stationary, but the walls were thin and were beginning to ulcerate. As the pedicle was long, it was decided to attempt amputation according to the method suggested to me by Dr. Porter.

A silver wire was passed subcutaneously around the pedicle, using for the purpose a long, curved needle, with a handle and an eye at the point. Little difficulty was encountered in passing the wire, and the sac was not punctured. On tightening the wire, however, the end was twisted off, and it was found that a small opening remained. This was closed by a catgut suture through the pedicle after amputation of the sac. No new filaments were found in the sac.

The wound was dressed antiseptically with corrosive gauge, and no leakage took place for three days. On changing the dressing, however, at the end of that time, a slight amount of serous fluid was found exuding. The patient was quiet after the operation, but became quite restless after twenty-four hours, and died without convulsions at the end of four days without symptoms of meningitis. The temperature was slightly elevated until the day before the patient's death, when it became sub-normal — 98°.

[1] Read before the Suffolk District Medical Society, Surgical Section, February 4, 1885.

[1] Read before the Suffolk District Medical Society, Surgical Section, February 4, 1885.

The case presented difficulties and demanded an operation, as rupture of the sac was imminent. It was impossible to determine positively whether a direct communication persisted with the cord, but it was inferred that no such communication did exist or was minute.

The statistics appear to show that Brainard's method of abstraction of a certain amount of fluid by aspiration, and the injection of a certain amount of iodine (iodine pure, 0.5; iodide of potash, 1.0; distilled water, 30.), promises success in a certain number of cases.

Löbker reports a case of cure of a case of lumbar spina bifida. The case was operated on three times, at five to eight days' interval; five grains of fluid was abstracted, and two grains of solution of iodine injected. The child was entirely well a year and a half later, and the tumor had shrivelled and disappeared, except that a growth of hair marked the spot.

Löbker [2] also reports a successful amputation after tying the pedicle in a child five days old, the case being one of lumbar spina bifida. Also, a second case of death following the same operation.

The statistics collected by Wernitz in 153 cases were as follows:—

Treatment.		Cured.	Died.
Compression	4	4	0
Puncture	57	17	40
Injection	55	42	13
Ligature	16	10	6
Incision	5	2	3
Excision	8	6	2
Amputation	5	4	1
Plaster	3	1	2
	153	86	67

Tabular statements of this sort, however, are manifestly of little value.

Mr. Holmes [3] justly states that no case of spina bifida should be subjected to operation, except in most urgent circumstances, and prefers injection, the American method, the sac not being emptied before the injection of the iodine, to the French method, where iodine is used as in a hydrocele. The pedicle should be compressed during the injection, and the fluid is sometimes allowed to flow out.

As death in these cases, is threatened more from direct exhaustion rather than from meningitis, and the exhaustion appears [4] to be largely induced by a loss of cerebro-spinal fluid, it would seem that Dr. Porter's method offers, as the leakage of the fluid is prevented, a more reasonable chance than either direct amputation or excision, and it is decidedly more surgical than the method of clamping the pedicle, or ligaturing the skin, as well as the sac.

OPERATION FOR THE RADICAL CURE OF HERNIA.

J. H., a boy two years and two months old, presented a congenital hernia of large size (size of a small peach). He was sent to the hospital by the Society of Prevention of Cruelty to Children, on account of abuse by his parents, and for the purpose of having his hernia cured. Treatment by truss, or the injection of white-oak bark not being feasible, on account of the lack of care in after-treatment, a radical operation was determined upon. The method introduced by Mr. Banks, of Dublin, was decided upon. This consists of twisting the sac after reduction of the hernia, and using the twisted folds of the sac to act as a plug in the ring, a suture being passed through the pillars and the twisted sac to prevent the plug from untwisting.

A free incision was made down to the sac, reaching from above the external ring to the scrotum. The sac was then cleared at its middle, and a ligature passed around the sac, but avoiding the cord. This latter procedure required careful dissection, as the parts were, in a child of that age, very thin and delicate. The ligature (catgut) was then tied and the sac cut off above, the lower portion serving as a tunica vaginalis. The upper portion of the sac was freed by stripping as far as was possible, up to the ring, and was then gently twisted. A silk suture was then passed through the pillars and twisted sac, and tied. The free end of the sac was then rolled up, and stitched as an extra wad. The skin wound was closed with catgut sutures.

Thorough antiseptic dressings were impossible, owing to the child's urine, but the wound was kept covered with iodoform. The skin did not unite by first intention, but gaped completely, and the boy's temperature rose to 104°, and his condition for ten days seemed alarming. At the end of a fortnight, however, the temperature was permanently normal, and the wound well in progress of cicatrization. At the present time, the child's wound is completely healed, and the opening is entirely closed, and though the child cries, and runs about without a truss, the hernia is kept well up.

[2] Centralblatt f. Chir., No. 33, 1884, page 559.
[3] System of Surgery, Vol. II.
[4] V. Real. Cycl. Article spina bifida.

A CASE OF PISTOL-SHOT WOUND OF THE HEAD RESULTING IN ABCESS OF THE BRAIN, WITH A REPORT OF THE AUTOPSY.[1]

BY ROYAL WHITMAN, M. D.

ON October 16, 1884, I was called to attend the patient whose history, as I afterwards learned, was as follows:

He was fifty-seven years of age, born in Ireland, and had never suffered from any severe illness. He had had much trouble in his family affairs, but of long duration; and there appears to have been no especial cause for anxiety, financially or otherwise. He occupied a responsible position in a large establishment, where he had been employed for twenty-six years; and, until a week before his attempted suicide, nothing unusual had been noticed about the man mentally or physically. At this time he left work, ostensibly on account of a cold; but the real reason appears to have been mental depression. Daily visits were made him by various employés, at the request of the firm; and, on this particular morning, a report had been made that he was in a very depressed state. Shortly after, having dressed himself in new underclothing, he shot himself in the right ear with a revolver of 32 caliber, the final exciting cause having been, it appears, the failure of the furnace to draw.

On my arrival, I found him lying on the bed, his shirt saturated with blood which was slowly flowing from a ragged wound in the right ear just above the external auditory meatus. He was conscious, pale, with a pulse of 80, of fair strength.

Ether was given; and, after shaving the right side of the head, an irregular body could be felt under the scalp, at a distance of about three inches above the meatus. This was cut down upon; and I

[1] Read before the Suffolk District Medical Society, Surgical Section February 4, 1885.

extracted what I supposed to be the greater part of the bullet, flattened out to about the size of a five-cent piece, with rough, rolled-up edges. The temporal muscle was considerably lacerated and blackened, and several small fragments of lead were removed from the vicinity. On passing my finger down the track of the ball, the temporal bone appeared to be slightly depressed; and I thought that I could detect several fissures in its surface, which was still covered by a portion of the muscle. On examining the ear, it was found that the ball had entered the concha just above the meatus; and, from this opening, several radiating tears extended, through which the cartilage projected. The ridge of bone about the upper portion of the meatus was bare, and the cartilaginous canal of the ear partially separated and slightly depressed from it. It seemed clear at the time that the ball, entering, had struck the firm wall of bone just above the meatus; had flattened and passed upwards, fracturing the squamous portion of the temporal bone.

Several bleeding vessels were ligated, a seton introduced through the track of the ball, and pressure applied over this area, which practically controlled the bleeding, though a slight oozing continued during the following night. In the afternoon the patient signed a transfer of property, and a will, making comments on the latter, as it was read to him. During the night and the several succeeding nights his mind wandered at times, and he was restless and sleepless, for which various sedatives were given. On the following morning the hæmorrhage had ceased, and the wound was irrigated with a solution of corrosive sublimate, and dressed with corrosive-sublimate fomentations. During the following week there was but a slight discharge from the wound, the seton was entirely removed on the fifth day, and the upper wound closed soon after, the treatment consisting of rest in bed, milk diet, ice bag on head, and cathartics. The patient complained of no pain, his mind seemed clear but weak, and his memory much impaired. He had no recollection of shooting himself, but concluded that he had been injured by a fall, and was utterly unable to understand why he had not put a pistol to his ear, and blown his brains out, as he had intended. All the acute symptoms connected with his injury having subsided, I now advised his removal to the McLean Asylum, as his mental power was considerably impaired; and, if he was to recover, as seemed probable, it would be advantageous to him to have it understood that his attempted suicide was caused by temporary insanity; and he accordingly entered there, on October 25th, at his own request. For the further details of the case, I am indebted to Dr. Cowles.

October 30th. It was noted that his memory was poor and he was very voluble. There was at this time a moderate discharge of pus from about the ear. The wound was treated by daily irrigation with a solution of carbolic acid and carbolized compresses, and the patient kept in bed.

November 3d. He sat up for the first time and seemed rather depressed.

November 12th. There seemed to be a slight improvement in his mental condition.

November 18th. Necrosed bone could be felt for three-fourths of an inch above and about the meatus. His temperature was taken at this time, showing it to be below normal.

November 23d. He discovered a scab on his head, over the cut made for the removal of the ball, and talked about it incessantly, insisting that it was the "barbers' itch," showing marked mental weakness.

November 24th. He was dressed for the first time, and for the two following weeks there was but little change in his mental condition, his memory being much impaired. His appetite was good, his bowels obstinately constipated, necessitating the administration of various cathartics, while his general physical condition seemed to have improved somewhat.

December 7th. Seven weeks after the injury, he first complained of frontal headache, which continued a prominent symptom until his death; and for the several succeeding nights was restless, disturbed the other patients by talking to himself, and during the daytime by repeating the same stories over and over again. Altogether there seemed to be such a mental failure that he was removed to another ward.

December 15th. Dr. Hodges was called in consultation in regard to the rather extensive area of necrosed bone about the ear, but advised non-interference, there being at this time, a moderate, free discharge of pus from the meatus and the neighborhood. The hearing on this side was tested several times, but seemed to be perfect.

December 19th. About an hour after the ear had been syringed and dressed as usual, there was a sudden further discharge of a teaspoonful or more of pus from the ear, which the nurse described as being thinner and darker than usual. The patient became faint, vomited, and when he was put to bed, it was noticed that he dragged his left foot.

On examination, it was found to be very difficult to make him understand simple questions. He seemed stupid and dazed. Called the physician by his daughter's name, and the nurses by the names of his various friends. The movement of the left leg and the grasp of the left hand were feeble. The left side was cooler than the other, and the sensibility to touch diminished. On the following morning, he lay in bed in the same stupid condition, from which he could with difficulty be aroused.

December 21st. Compressed sponges were placed in the meatus for the purpose of dilating the canal, and for the few following days, he appeared brighter, though the paresis of the left side continued and increased.

December 28th. The paralysis of the left side was now complete, and the patient lay in a deep stupor. A twitching of the muscles of the paralyzed arm was noticed, and the discharge of pus from the ear ceased. The patient now would not swallow, and nutritive enemas were given.

December 31st. Dr. Hodges called. The face was now drawn to the left and the patient comatose. On passing a probe into the auditory canal, necrosed bone could be felt all along the upper boundary and the probe passed in a direction upward and inward for two inches, then striking upon a yielding substance, apparently the dura.

January 1st. Conjugate deviation of the eyes to the left was noticed, and during the afternoon, the patient died, seventy-seven days after the injury.

The following is the report of the autopsy, which was made by Dr. Gannett:

"Autopsy made fifteen hours after death. Body well developed and nourished. Slight lividity of dependent portions. Ratio of head to body, and of cranium to

face, apparently normal. Ant.-post.-diameter of skull, 18.8 cm.; transverse, 13.9 cm.

"From the right ear, a thin, foul, puriform fluid exuded. On the removal of the scalp, the pericranial tissues just behind the right ear, about one cm. below its upper border, were discolored, bluish-black over an area two cm. square, from the centre of which numerous small granules of lead were removed. The temporal muscle showed a similar bluish discoloration, and was considerably depressed below the level of the surrounding bone substance. In the middle of the right temporal bone, was a depressed, comminuted fracture twenty-five by thirty cm. in diameter, some portions near the centre being loose, those on the periphery being, for the most part, adherent to the surrounding bone. About the edge of the fracture, several minute fragments of lead were imbedded. The inner surface of the tabular portion of the right temporal bone showed a series of comminuted fractures, with elevation of fragments. About one cm. from the vertical portion, was an opening in the petrous portion, which communicated, both with the meatus and with a fistulous track lying just above the meatus.[2]

"The calvaria showed no noteworthy appearances; freely separated from the dura. The dura on the right side showed numerous bluish-black patches. On the inner surface of the dura, were numerous dark patches, elevated about one mm. above the surface, which could not be washed or scraped off. The pia over the convexity of the right hemisphere had a slightly yellowish tint, and on pressure, this half of the brain fluctuated. On removal of the brain, it was found that the dura was intimately adherent to the pia over the seat of fracture in the right temporal bone already described. Just beneath this adherent portion of the dura, in the right temporal lobe, were two cavities, one the size of a large English walnut, with sharply-marked, smooth walls of connective tissue, about one mm. thick, just outside which could be seen brain substance, showing nothing abnormal beyond a series of small, dark-red points following the course of this wall. The other cavity was the size of a plum, its contents consisting of softened, yellowish brain substance. To the outside of this cavity, for a distance of nearly two cm. in all directions, the brain substance was softened, moist, of a pale-yellow color, resembling baked custard. Above, and to the inside of these two cavities, was one of an irregular shape, nearly as large as a peach, situated in the white matter of the temporal, lower parietal, and anterior occipital lobes, also involving the whole of the posterior third of the nucleus lentiformis, and a portion of the contiguous inner capsule. This cavity contained rather soft blood-clots, the brain surrounding it being softened and of a gray color, with abundant punctate hæmorrhages. The remaining portions of the brain were quite firm and showed nothing remarkable." The sinuses of the dura were everywhere free.

The examination of the body having no particular bearing on the case, has been omitted.

The case presents, I think, one or two points of interest:

(1) The complete smashing of the ball into so many different fragments, a rare occurrence when a conical bullet strikes a bone with its full initial velocity. In this case, one fragment fractured the squamous portion of the temporal bone, another fractured and penetrated the petrous portion, another lodged in the bone, while the remainder was broken up into the numerous fragments, as described.

(2) The normal or subnormal temperature observed during the whole course of the abscess formation, a symptom of abscess of the brain as yet not fully recognized as of importance as a diagnostic sign. Hulke, in Holmes's "System of Surgery," says that this symptom deserves attention; while Nancrede, in Ashurst's "Encyclopædia of Surgery," says: "I believe that an abscess involving cerebral tissue alone, will be accompanied, in most cases, by a subnormal, or at least, not an elevated temperature. When a high temperature is observed, either the pus-collection is simply a localized suppurative arachnitis, limited by adhesions, or there is a meningitis in addition to the abscess. If originating from bone caries, middle-ear disease, or where the abscess is secondary, there is almost, of necessity, an elevated temperature, although even here, during the height of the symptoms, as in a case reported by Huguenin, the temperature may be normal. If these observations are confirmed by others, a valuable diagnostic point will be afforded."

The sequence of events in this case, seems to have been 1st, Fractures of different portions of the temporal bone with contusion of the brain. Then inflammation of the membranes and formation of an abscess, the symptoms of which were almost latent until December 7th, when the symptom of headache became prominent. On December 19th, the abscess burst, partially evacuating itself through the meatus, the sudden disturbance of the cerebral tension resulting in the dizziness and vomiting which followed the discharge of pus. The second abscess then formed, with implication of the deeper structures of the brain, as shown by the rapidly-increasing paralysis and stupor, finally resulting in the hæmorrhage, which appears to have been the immediate cause of death.

All authorities agree that it is extremely difficult to make an early diagnosis of chronic abscess of the brain, particularly, when, as in this case, it was situated in the temporal lobe, which is not directly connected with sensibility or mobility.

Looking at this case after the autopsy, the symptoms appear to have been almost typical of an abscess in this region.

(1) A cause for the abscess existing.

(2) Mental weakness and loss of memory, though these symptoms might have been explained by a supposed mental disease, which caused his attempted suicide.

(3) Persistent headache during the last months, which a localized meningitis might have caused.

(4) Constipation.

(5) A normal or subnormal temperature and slow pulse, the former not, as yet, a fully recognized symptom of abscess, and finally, paresis, stupor, and death.

In regard to abscess of the brain in general, authorities practically agree that it is impossible to decide before an operation, whether or not an abscess is complicated with a meningitis. That an abscess following an injury of the skull is usually situated in that portion of the brain immediately beneath it, and that having made a diagnosis of abscess, the only possible remedy is in the evacuation of the pus.

With regard to trephining, the following rules appear to be generally agreed upon by the various writers on the subject:

If an injury over the motor region has been

[2] On section of the bone another fragment of lead was found firmly embedded in the fractured posterior or wall of the tympanic cavity.

followed by symptoms of abscess, with paresis or paralysis of the opposite side, uncomplicated with anæsthesia, the prospect of evacuating the pus and relieving the symptoms would be good, the extent and completeness of the paralysis being an important element in the prognosis.

The prognosis would be much graver, and the operation possibly contra-indicated, under the following conditions:

(1) If the paralysis was on the same side as the injury, showing a probable implication of the opposite side of the brain, in which case it would be useless to trephine over the original injury.

(2) The combination of anæsthesia with the paralysis, showing a lesion of the white substance of the brain, or of the internal capsule, too extensive to be relieved by an operation.

(3) With an injury in the frontal or occipital region, or over the sensory area of the skull, if paralysis occurs, which would indicate an extension to the motor area, or to the deeper parts of the brain. Although, as authorities agree that death is certain if the pus is not evacuated, it would seem that operative interference would be justifiable, even under such adverse conditions.

Having trephined the skull in search of pus, it would seem advisable to aspirate the brain through the dura, or to incise that membrane, whether or not it showed signs of an underlying inflammation. I have found no cases reported where immediate death followed aspiration or incision of the brain substance, while there are many instances where, at the autopsy, abscesses of the brain were found lying under the opening made by the trephine or in the vicinity which were not opened, either because the dura presented a normal appearance, or from fear of incising the brain substance.

Having opened an abscess of the brain, as much attention should be paid to drainage, as in the case of an abscess in any other situation. Cases are reported where the evacuation of the abscess was followed by a temporary relief of the symptoms of compression, and afterwards by death from extension of the abscess, which was not thoroughly drained.

REPORT ON OBSTETRICS.

BY C. M. GREEN, M.D.

THE CHOICE OF METHODS IN ABDOMINAL DELIVERY.

Dr. R. P. Harris,[1] to whose unflagging interest the profession ever looks for light on this subject, gives a terse and lucid *résumé* of the present aspect of abdominal delivery in view of recent improvements in the operation, and tabulates the results of the Cæsarean operation by the new method of Sänger and its modifications during the past five years. Any method by which the uterine wound can be successfully closed is a great improvement on the so-called "old" Cæsarean operation, as has been shown by results in recent cases. But, as Dr. Harris has so frequently and forcibly pointed out, no method of operation, no amount of care in matters of detail, will often result successfully in cases which have been suffered to linger for hours and days undelivered in the vain hope that abdominal section may not be necessary. Delay and futile attempts at delivery are doubtless responsible for many failures in cases wherein timely operation by approved methods would have been successful. "When," says Dr. Harris, "will the accoucheurs of the United States realize the fact that the high rate of mortality lies at their door rather than at that of the operator?"

Sänger's method consists essentially in the resection of a strip of the muscular uterine wall on each side of the incision, whereby a free border of peritonæum can be turned in and its serous surfaces sutured. Spencer Wells has made it familiar that two peritoneal surfaces in apposition unite in twenty-four hours: and this fact was shown in Dr. Drysdale's case, in which death followed the operation in twenty-six hours and the peritoneal surfaces in the line of incision were found united post mortem. It has been found in practice, however, that muscular resection is not always necessary, as in some cases, after the uterus contracts, its serous coat is sufficiently loosened to readily allow the peritonæum to be slid over the edge and turned in. Several methods of suture have been devised by Sänger and others; but they all consist essentially of deep sutures of silver wire passing through the muscular tissue, but not including the decidua, and superficial stitches of cat-gut or silk so introduced as to approximate the turned-in peritoneal surfaces. Unless the uterine tissue is degenerated by disease or unduly long labor, this method ensures persistent closure of the uterus and prevents leakage into the peritoneal cavity. And with the improved methods of antisepsis now so generally employed there is no reason why the operation should not result successfully in a large proportion of cases, if only it is performed while the patient is in a favorable condition. Leopold, who follows Sänger's method with some modification, has saved four women and five children in five operations, a result very largely due to the fact that the operations were timely. Dr. Harris' table includes twelve cases, of which three were in this country and nine in Germany: of this number there were saved 50 per cent. of the women and 83 1-3 per cent. of the children. In five cases the condition was unfavorable at the time of the operation.

The chief obstacle to success in late Cæsarean operations, apart from the generally unfavorable condition of the patient, is undoubtedly the degenerated condition of the uterine tissue, on account of which union will not take place. In delayed cases, therefore, where the obstacle to natural delivery is not in the lower segment of the uterus, Dr. Harris thinks that laparo-elytrotomy deserves to be more thoroughly tested, as by this method incision of the uterus is avoided. The author has tabulated twelve cases of this operation, being all which have been performed in the last fifteen years since Dr. Thomas' first operation. Ten of these cases were in this country, and two in England. Of this number 50 per cent. of the women and 58 1-3 per cent. of the children were saved; but only four cases were considered "favorable" for the operation, and these all recovered and the children were all saved. Unquestionably in this country laparo-elytrotomy has been more successful than the Cæsarean operation.

When the child is putrid, the choice of operation should lie between the Porro-Müller operation and laparo-elytrotomy; but it appears safer to Dr. Harris

[1] American Journal of Medical Sciences, October, 1885.

to select the former method as affording less risk of subsequent septic absorption. The Porro-Cæsarean operation has proved very successful in Milan and Vienna, but quite the reverse in Germany, where the new methods have raised the old operation to greater estimation.

DIAGNOSIS OF THE POSITION OF THE HEAD BY FEELING OF THE FŒTAL EAR.

Lomer,[2] of Hamburg, recalls attention to the value of feeling of the fœtal ear as a means of verifying, in certain cases, the diagnosis of the position of the head. When the medical attendant sees a case of labor early, the diagnosis of position can usually be made by abdominal palpation, and confirmed by vaginal examination of the sutures and fontanelles. It sometimes happens, however, that the patient is not seen until late in the labor, when extensive œdema of the scalp has so obscured the sutures and fontanelles that by their examination no positive opinion can be formed. It is in such cases that instrumental interference is often necessary, and it is a matter of utmost importance that the fœtal position should be accurately made out. The anterior and posterior borders of the ear present such well-marked differences that examination of that member leaves no room for doubt towards which side of the pelvis the occiput is directed. When the head is low in the pelvis an ear can be reached without difficulty: if, however, the head is high, it may be necessary to introduce the half-hand; but as in such cases operative interference is usually indicated, when there is sufficient obstruction to cause enough œdema of the scalp to obscure the sutures and fontanelles, and as the patient would previously be anæsthetized, the examination with the half-hand can be made without difficulty. Where there is room between the head and pelvic walls for the forceps blades, there is room for the tips of examining fingers.

THE TREATMENT OF PREMATURELY-BORN INFANTS.

This subject has deservedly received considerable attention from recent authors; and it is now well known that, if any expectation is to be entertained of rearing prematurely-born infants, great care must be taken to maintain a suitably high temperature and to ensure a properly regulated nourishment. The former desideratum may easily be obtained by the use of either Credé's hot-water cradle or Tarnier's couveuse, the construction and method of use of which are now well understood and which are figured and described in the last edition of Lusk's Midwifery. To ensure a proper amount of nourishment for infants too weak to suck, M. Tarnier, in a recent paper[3] recommends the use of "gavage." The apparatus for practising gavage consists of a soft rubber catheter (size No. 18, Charrière) with a small glass cup fixed to its upper end. This catheter, well oiled, is passed down the œsophagus about six inches, when it may be supposed to have entered the stomach. The nourishing liquid is then poured into the glass cup and allowed to flow into the stomach by its own weight: in withdrawing the catheter it is necessary to do so rapidly, else the fluid may be regurgitated. The number of times in the twenty-four hours in which gavage should be employed and the amount of nourishment to be administered each time are to be determined, of course, by the age and strength of the infant: in general, the feedings should be more numerous and the amount of nourishment given each time diminished according as the age of the infant is less and its vital powers more feeble. When the child is very small and born considerably before full term, eight grammes is a sufficient amount for one feeding. Tarnier has used asses' milk with success; but of course human milk is to be preferred. In some cases the infant is sufficiently strong to suck in part, and the breast feeding can be combined with gavage. By the use of the couveuse and gavage, Tarnier has successfully reared two infants which were born soon after the sixth lunar month, and he does not altogether despair of rearing children born even before that time.

THE EFFECT OF FULL HOT BATHS IN EXCITING LABOR PAINS.

Led by the successful experience of Breus,[4] in the use of hot baths in the treatment of nephritis and eclampsia in the pregnant and puerperal conditions, Sippel,[5] of Frankfort, tried Breus' method in two cases, with the following interesting results: —

The patients were advanced to the thirty-second and thirty-fifth weeks of pregnancy: in both, albuminuria with scanty urine, œdema, nausea, vertigo and other symptoms foreboded eclampsia: neither patient as yet had labor pains, in both the fœtal pulse was normal. Both patients were put into a full hot bath at a temperature of 110° F.; kept there for twenty minutes, and then wrapped up in hot, moist blankets and subjected to profuse diaphoresis. Shortly after the removal from the bath uterine contractions set in. In one patient the pains continued and a living child was naturally delivered fourteen hours after the beginning of the bath: there was no hæmorrhage, the puerperium was normal, and the urine was free from albumen on the tenth day. In the other case the pains ceased after an hour and a half; but on the next day a second bath was given in a similar way, and forthwith pains set in which continued, and ten hours after the beginning of the bath a living child was spontaneously born. There was no hæmorrhage, the convalescence was normal and albumen disappeared from the urine within five days.

In the two cases in which Breus had used the hot-bath treatment during pregnancy, for the relief of uræmic symptoms, premature labor did not ensue: and Breus expressly states that this treatment may safely be employed during pregnancy, in cases of threatened eclampsia, without fear of inducing premature labor. This difference in results Sippel attributes to the fact that Breus in his cases gave chloral freely by rectum, which drug so diminished the reflex sensibility of the peripheral nerves that the hot baths did not excite labor pains. Premising that a like reflex irritability exists in the healthy gravida as in the pregnant woman suffering with nephritis, Sippel believed that if this irritability were not obtunded with narcotics, the hot bath might prove a valuable means of inducing premature labor, when for any reason that operation was indicated. An opportunity for testing his theory presented itself in the following case:

A secundi-gravida with a generally contracted pelvis having a diagonal conjugate of 4.2 inches, and who had advanced to the thirty-fifth week of pregnancy, was to

[2] Centralblatt für Gynäkologie, No. 35, 1885.
[3] Archives de Tocologie, September, 1885.
Am. Jour. Med. Sciences, January, 1886.

[4] Vide Vol. cix., No. 2 and Vol. cx. No. 2, of this Journal.
[5] Centralblatt für Gynäkologie, No. 44, 1885.

have labor induced in the interest of the child. She was placed in a full bath at a temperature of 106° F., which was raised with tolerable rapidity to 110°: she remained in the bath twenty minutes, towards the end of which time slight pains set in, but soon disappeared. As there was no occasion to employ diaphoresis, the patient was then allowed to attend to her usual occupation. On the next day she received a second bath under similar conditions: slight pains ensued; but they soon ceased. On the following day she was placed in a third bath at a temperature of 110° F., which was soon raised, however, to 114° F., and she remained in the bath half an hour. During the bath pains began and labor progressed from that time, the head descending characteristically of the generally contracted pelvis, that is, in a position of extreme flexion. A living child was born, there was no atony of the uterus and the puerperium was normal.

Sippel is not led by his few observations to draw general conclusions, but hopes that the profession will give the hot-bath treatment due trial. If it is found that labor can be brought about with tolerable certainty by this method, the induction of premature labor will be freed from its greatest danger, namely, the danger of septic infection.

Dental Memoranda.

COPPER AMALGAM.

BY WILLIAM HERBERT ROLLINS.

THERE are many teeth too decayed to fill with gold, because the operations are too exhausting for the patients and much sound tooth substance must be cut away to make the cavity of the proper shape. The alternatives are gutta percha, cements and amalgams. All the gutta perchas are soft, all the cements are soluble, so that both these kinds of fillings require constant attention.

Amalgams are said to injure the health of patients; to shrink, making leaky fillings; to assume a somewhat globular form in setting, thus drawing out of the angles and allowing moisture to get in; to bulge after setting, through some slow molecular rearrangement, in this way leaking or splitting the tooth; to break at the edges of the filling so allowing food to lodge and produce fresh decay, and also all amalgam fillings change in color.

My experience with amalgam is extensive only with one made of copper. To what extent do these objections apply to this amalgam?

First, I have not yet seen any constitutional effect from its extensive use. Second, with regard to shrinkage—this amalgam does not shrink nor expand. Third, tendency to assume a globular form in hardening. If an irregular hole with sharp angles is made in a plate of glass and the hole packed with copper amalgam and placed in a colored solution, no leakage is seen, so that in this amalgam the globular tendency is not injurious. Fourth, bulging. In several hundred fillings I have seen no case. Fifth, fracture at the edges. Copper amalgam is twice as strong as the ordinary compound amalgams, and although it has not the edge strength of gold, a case has recently been reported in which the fillings on the grinding surfaces of the molars were perfect after twenty years wear. Lastly, copper amalgam does discolor badly: it makes the blackest kind of filling, but does not discolor the tooth unless the filling leaks, when it should be renewed.

Several methods of making this amalgam are given in works on chemistry and dentistry, though they differ in details they all agree in trying to make mercury unite with copper precipitated from a solution of one of its salts. This is difficult in practice, and the amalgam produced by any of these processes is always impure.

The following process is supposed to be new, is simple, and the product pure.

Distilled water 5 gallons. Sulphate of copper C.P. enough to saturate. Sulphuric acid C.P. one pound: mix, filter and pour into a wooden firkin. Place ten pounds of pure mercury in a gallon glass battery-jar and immerse in the copper solution. To the zinc plate of a galvanic-battery attach an insulated copper wire, leaving one end bare for quarter of an inch. This exposed end is then plunged under the surface of the mercury. Tie two pounds of pure granulated copper in a coarse cloth and hang it in the copper solution in the firkin, connecting it by a wire to the carbon of the battery. The battery is to be kept in action till the mercury is a paste.

This paste is to be washed in water and the surplus mercury squeezed through buckskin. The resulting soft amalgam is allowed to harden. On a large scale a dynamo would be more convenient, but one gallon-cell of a Bunsen battery will produce two pounds of amalgam in three days.

PREVENTIVE FILLINGS.

It is rare to find molar teeth in which the fissures formed in development on the grinding surfaces of the crowns do not decay and form cavities in a few years. These fissures are usually of such shape that a semi-liquid material can be worked into them with fine instruments. As soon as a molar has erupted, an attempt should be made to fill all the fissures on the grinding or other surfaces. The tooth should be made dry with absolute alcohol and warm air, after which copper amalgam is to be worked into all the minute cracks with suitable instruments. Copper amalgam is superior to all other substances for this purpose, because while it can be used in a semi-liquid state, it afterwards gets hard and insoluble. If the teeth on one side are treated in this way before decay begins, and on the other side treated in the ordinary way, that is, if nothing is done till more or less extensive decay has appeared, only a few years will be needed to show that this preventive treatment is of value, particularly in those delicate teeth, the first permanent molars.

Reports of Societies.

SUFFOLK DISTRICT MEDICAL SOCIETY. SURGICAL SECTION.

S. J. MIXTER, M.D., SECRETARY.

FEBRUARY 4th 1885. DR. C. B. PORTER presiding. DR. ROYAL WHITMAN reported

A CASE OF PISTOL-SHOT WOUND OF TEMPORAL BONE, FOLLOWED BY ABSCESS OF BRAIN.— AUTOPSY AND SPECIMEN.[1]

DR. GANNETT spoke of a case of cerebral abscess

[1] See page 170.

occurring at the City Hospital, which was remarkable on account of the absence of symptoms that would point to such a lesion. The patient was cook on an English steamer, and twenty-four hours before the time of sailing, having been in the hospital for a short time with slight symptoms, was up and about the ward, and wished to sail the next day. That night he died suddenly. On autopsy an abscess as large as a lemon was found in the right frontal lobe.

DR. E. H. BRADFORD reported

A CASE OF OPERATION FOR THE CURE OF A SPINAL BIFIDA, AND AN OPERATION FOR THE RADICAL CURE OF INGUINAL HERNIA,[2]

the two cases being reported together on account of the similarity of the operative procedure.

DR. A. T. CABOT asked the reader if he would inject iodine if the opening into the spinal canal was a large one.

DR. BRADFORD replied that he probably would not, as what was wanted was to set up a slight irritation of the lining of the sac without its extending to the cord. If the sac could be drawn out so as to be clamped at its base, the injection might perhaps be made. He did not know of any cures by this latter method.

In reply to Dr. Harrington, Dr. Bradford said that the advantage in the method of operating adopted by him, was that two layers covered the opening into the spinal canal.

DR. CABOT said that it seemed to him while watching Dr. Bradford's operation, that if a clamp were used to secure the pedicle, the ligature could then be passed and secured without danger.

In remarks on the hernia operation Dr. Green wished to know how many cases of the radical operation resulted in a permanent cure. From his own observations he concludes that all operations that depend for their success on a closure of the ring by a plug of deposited lymph, almost always fail, owing to absorption of the mass, and descent of the hernia. This operation being on a different plan, seems to promise better results. In regard to the success of Heaton's operation, he could say that in the past few months he had seen at least ten cases of relapse, some of which had been reported as successful operations.

DR. BRADFORD said that at the City Hospital many cases had been operated upon by Heaton's method but the cases were seldom followed up so that the final result could be known. In one case, there was now, after two years, no relapse — two operations having been performed. Sometimes the patient can wear a truss after the operation where it was impossible before.

DR. MIXTER spoke of the difficulty in determining the exact point where the oak bark was injected. In several dissections made on children, after injections of colored fluid about the ring by one of the hospital surgeons, the point of the needle was shown to be sometimes in the peritoneal cavity, and sometimes at different points in the vicinity of the ring, rarely in the right spot.

DR. CABOT mentioned a case operated on by him about a year ago for strangulated hernia, where the pillars of the ring were sewed together with catgut, and there was now no return of the hernia.

DR. CONANT spoke of a similar case, operated upon in similar manner, by Dr. J. C. Warren at the Massachusetts General Hospital, and said there had been no relapse.

DR. C. B. PORTER reported

A CASE OF SUPPOSED MULTIPLE SPINA BIFIDA, WHICH PROVED BY MICROSCOPIC EXAMINATION TO BE MULTIPLE CONGENITAL CAVERNOUS LYMPHANGIOMA OF THE BACK.[3]

DR. GANNETT showed the tumors removed by Dr. Porter, together with sections of the same under the microscope.

MIDDLESEX SOUTH DISTRICT MEDICAL SOCIETY.

JANUARY 20th, Monument Hall, Charlestown, Z. B. ADAMS, M. D., President, in the chair.

IRREDUCIBLE AND STRANGULATED HERNIA.

DR. S. E. WYMAN, of Cambridge, read an able paper, giving a *résumé* of the descriptive anatomy of the subject. DR. W. EVERETT SMITH, of Framingham, followed with an account of the pathology:

Birkett attributes the strangulation of hernia to a predisposing cause, relying, first, on a previously existing disordered or relaxed state of the bowels, and, second, on a condition of congestion and hypersecretion of the small intestines.

Erichsen, on the contrary, believes these conditions to be the *result* and not the cause.

Three states are recognized: first, simple congestion with effusion of clear serum; extravasation of blood, occurring either from the firmness of the constriction or from the employment of taxis. Second, inflammation; the bowel appears softened, dull-looking, and leathery or pulpy. Lymph is seen on the peritoneal surface, and adhesions among the adjacent tissues. The serum in the sac becomes turbid, coffee-like, or filled with flocculi of exuded white corpuscles. Third, gangrene, commencing at the seat of firmest constriction — more rapid in direct inguinal, and femoral hernia, because the strangulation is more rigid and linear than in other varieties — may quickly involve the whole of the constricted parts, intestine or omentum. Where the pressure is diffused, ulceration and even perforation at the line of stricture is a more common occurrence. The peritoneal surface of the gut is duller than normal, the color ashy or black, adhesions form, the serum of the sac contains blood and pus, and sometimes a general peritonitis occurs. That the return of the gut into the abdomen is the usual cause of this general peritonitis (as maintained by Hutchinson and Gérard), is an assumption not borne out by the facts.

When, after reduction, the bowel ulcerates, either at the line of stricture or, as is common in femoral hernia, at the centre of the knuckle, an extravasation of fæces may occur. This may be localized by adhesions, and an artificial anus result. Statistics from Guy's Hospital Reports clearly go to show, however, that gangrene of the knuckle of intestine with subsequent artificial anus is far more common in femoral than in inguinal hernia, whereas ulceration at the line of stricture is more common in inguinal hernia and results usually from forcible taxis.

The mucus membrane of the gut is deeply congested, from the very beginning of the strangulation,

[2] See page 169.

[3] See page 169.

the villi becoming swollen, softened, and friable. These lesions are especially pronounced at the afferent end of the loop, which is usually open and distended by fæcal matter or gas. The portion below the strangulated loop is diminished in calibre, and is also the seat inflammatory action. The junction of the loop with this portion is always occluded.

Ulceration or gangrene proceeds from within outwards, that is, from the mucous towards the serous surfaces. The ensuing perforation may be very minute and difficult to find.

If the strangulation be sudden and complete, a slough may form in the space of twenty-four or forty-eight hours. If, however, the process of constriction has been gradual, the tissues become thick and leathery, a condition which adds materially to the difficulty of reduction by taxis, but which serves to show that the tissues are not dead.

Gas may be present in the sac, and give a marked crepitation. Fæcal matter is rarely found in the sac.

Strangulation is most violent in the femoral and the incomplete inguinal varieties, perhaps owing to their being overlooked by reason of smaller size than others. It should also be remembered that an old hernia is more liable to strangulation than a recent one, although in the latter, the symptoms are more dangerous, and likely to be attended with mortification. The relative frequency of seats of strangulation in inguinal hernia is, first, internal ring; second, edge of conjoined tendon; third, occasionally only, at outer ring.

ETIOLOGY. DR. WALTER ELA, CAMBRIDGE.

The best view to take to explain the mechanism of strangulation is that it is due to changes taking place in the protruded parts occasioned by their constriction by the tissues external to them. It may be due to an increased size of the hernia, from the presence of gas and fæces in the irreducible form, or it may come about in this way:

A knuckle of intestine or piece of omentum is suddenly protruded during effort of some kind; this immediately becomes compressed by the sides of the narrow aperture through which it has escaped; the return of its venous blood is consequently interfered with, and swelling and œdema rapidly ensue. If the ring is hard and sharp, the strangulated part may thus be deprived of vitality in a few hours. If otherwise, the congestion may run into inflammation. The return of the protruded parts will be rendered difficult or impossible by swelling, by œdema, and by adhesive inflammatory products.

DIFFERENTIAL DIAGNOSIS. DR. J. T. G. NICHOLS, CAMBRIDGE.

Strangulated hernia is most likely to be confounded with *obstructed* hernia, in which the included intestine is filled with fæcal masses and flatus, or with inflammation of the hernia or its sac, caused oftenest by violent taxis or by an ill-fitting truss. In the first-named affection the symptoms are rarely urgent, and by careful manipulation one can often press a portion of the contents of the hernia back into the intestinal canal. In inflammation of the hernia or sac, most commonly seen in irreducible hernia, the distinction is not always easy. Perhaps the rule which will oftenest guide us aright is this: in strangulated hernia the general symptoms precede and predominate over the local; in inflammatory hernia, the local symptoms precede, and are for a considerable time most marked. It is in these cases, in which the life of the patient turns upon our decision, that the rule applies, "When in doubt, operate."

Inflammation of the testis, arrested in its descent through the inguinal canal, may be mistaken for strangulated hernia. So, also, in inflammation of the lymphatic glands in the inguinal or femoral region, care in examination will seldom fail to clear away all doubt. Besides the ordinary seats of hernia, the trouble may show itself in unusual places, and so be overlooked or mistaken for something else. Among these, hernia into the labia majora and in the perineum, can hardly escape detection; so, also, hernia into the vaginal wall, if attention is directed to it. In these situations, hernia is rarely strangulated.

In obturator hernia the diagnosis is often extremely difficult. In many, indeed in most, cases of this rather rare disease there is no tumor to be seen. The pain in most of the cases recorded is described as being along the inner part of the thigh, inner aspect of the knee, and sometimes along the front of the leg and inner side of the foot. The presence of a tumor in the upper and inner part of the thigh, behind the femoral artery, instead of in front as in femoral hernia, might make the diagnosis possible or even easy. The pain follows the distribution of the obturator nerve and its anastomosis, and would of itself justify an exploration of this rather rare seat of hernia, (the obturator anastomoses with the interior cutaneous branch of the anterior crural and the internal saphenous branch). The pain may sometimes be elicited by rotating the hip outward. In cases of doubt, exploration by the rectum or vagina should not be omitted. In one case this hernia was discovered during an operation for the relief of supposed internal strangulation. Five cases are recorded in which this form of hernia was complicated by other herniæ: in one with double femoral, in three with femoral of the same side, in a fifth with inguinal hernia of the same side.

In fourteen out of twenty-five cases reported by Birkett in Holmes's Surgery, obturator hernia was discovered only after death. In hernia through the ischiatic notch, the tumor may be felt under the gluteus maximus muscle.

Diaphragmatic hernia has no certain diagnostic marks. The easiest way to overlook a thing is not to look for it; and this is the cause of many of the fatal mistakes in strangulated hernia. In any case in which the symptoms of strangulation present themselves, it is the duty of the physician to examine with the utmost care, not only the ordinary but the unusual seats of hernia.

HOW DOES IRREDUCIBLE HERNIA AFFECT LIFE INSURANCE? DR. THOMAS CROZIER, CHARLESTOWN.

In the medical selection of lives for insurance, hernia is not a frequent cause for rejection. Various estimates have been made of the proportion of hernia in the general population, varying from 40 to 83 per 1000. In the New England States, particularly in our cities, it is much more frequently met with than in the Western States. During the late war the examinations made on account of the draft showed the extreme prevalence of this disability in this section. About 6000 men were exempted in Boston alone by this disqualification. There does not appear to have been any very exhaustive attempt to fix the propor-

tion throughout the general community, but various estimates make an average of about 60 per 1000 as the proportion in men. A careful examination of the writer's records of all applicants accepted and rejected during ten years, shows that hernia existed in 25 cases per 1000 examined, almost equally divided between right and left inguinal.

Knowledge of any infirmity which would be a bar to acceptance will deter the applicant, and agents are not anxious to lose time in soliciting doubtful cases; and this perhaps explains the comparative rarity of hernia in applicants for insurance. No medical man would pass as an average risk an applicant afflicted with irreducible hernia of any organ; irreducibility in intestinal hernia making strangulation more probable. If a hernia has been relieved by operation, the fact of its having once existed would be no bar to insurance.

Mortality from strangulation and attendant inflammation is a very small item in the losses. One company of long standing, for a recent loss from peritonitis following obstruction of the appendix caeci, paid an amount which would more than cover all losses from hernia during forty years of its existence. A simple hernia unless very large *would not of itself alone* be a sufficient cause for rejection.

The writer desired to call attention in closing to the valuable contribution to vital statistics now accumulating in the ordinary routine of experience of life insurance companies in Europe and America.

TREATMENT OF STRANGULATED HERNIA. S. W. DRIVER, CAMBRIDGE.

When called to a case of strangulated hernia in early stages, after careful examination, ascertaining as nearly as possible the kind of hernia and contents of sac, if no contra-indications, I have always tried gentle taxis even without ether, and have often reduced the hernia. Failing in this, I put patient in favorable position of relaxation, direct hot fomentations, and leave to return after some hours prepared to operate. Give ether, and always aspirate first, whether contents of sac be fluid or gas, or not determined. Then use firm and gentle taxis. (In two cases of crural hernia over forty-eight hours old, I aspirated and reduced; another crural was aspirated, taxis failed, was then relieved by cutting; one large inguinal, aspirated, taxis failed, and was returned after cutting.) Taxis failing, operate. If of a good many hours standing and there are signs of the later pathological changes about the tumor, I should not dare to use taxis, but cut at once.

Epigastric Hernia. I have seen but one epigastric hernia, and that traumatic. Man, aged forty, fell upon a cart-stake. Vomiting, shock, pain, present. Gave ether at once and reduced the hernia which was small and elastic, midway between umbilicus and ensiform cartilage, right. All went well for twenty-four hours, when symptoms of peritonitis appeared and death in six days. If unable to reduce I should have operated at once with similar methods as in any laparotomy.

Umbilical Hernia. One case of non-surgical treatment. Woman, fat, fifty-six, very large hernia, which had been strangulated before and reduced. At this time there was a portion of omentum which had escaped through the lower border of sac into a supplementary pocket. Patient cold, vomiting, colic pains, and bowels becoming tender. Hot fomentations, ether and taxis failed. Gave full doses of opium by injections and stimulants; applied belly-band and hot compresses. After three weeks of very critical symptoms she slowly began to convalesce and was fitted with a large shield truss. Four years after was again attacked with symptoms of obstruction and inflammation; as the contents of the sac could be displaced into the abdominal cavity and no strangulation could be shown to exist, patient was put on same treatment as before, and she died in less than a week. No autopsy.

Other means failing in this form of hernia we must decide whether to operate excising sac and ring under antiseptic precautions, closing the wound as in ovariotomy; or operate less radically freshening edges of ring and bringing together with catgut sutures. I prefer an operation which shall be essentially subcutaneous in those cases where you can locate the edge of the ring and define the sac and contents. (Remember there is no peritoneum covering the hernia.) Two subcutaneous knives, probe-pointed, right and left, with very short cutting edges bent at an angle of 45°, one inch from probe point; also right and left probe-pointed guards, to hold back the neck of the hernia from the ring and guide the knife. Puncture the skin one-half inch from edge of the sac, at point where you can best reach the edge of the ring. Enter probe-guard in front of the ring and press back the sac, following with knife with its back to the hernia and guard; elevate the wrist and nick slightly. I believe I have seen two cases suitable for this method of treatment. Any adhesions might prevent the return of the hernia, but strangulation would be relieved in this way.

I reduced a strangulated umbilical hernia lately, as follows:[1] The patient was fat, fifty years old or more, with a big belly. Hernia size of half a turkey's egg. Failing with ordinary taxis, I gathered the tumor together with all the fingers and thumbs of both hands and while exercising firm pressure lifted the anterior abdominal wall with careful force, hoping that either the shortness of the mesenteric attachments or spasmodic contraction would act as counter extension; at the same time I vibrated my hands with a view as it were to *unbutton* the ring. I was gratified to find that there was a counter-extension force and felt the hernia slipping through and dropping out of sight and touch. This hernia had been strangulated for twelve hours.

Oblique Inguinal Hernia. Here Dr. Driver explained in detail his method of operating. It is not desirable to open the sac if you can avoid it. The pons asinorum is to determine when you are in the sac. In case of small hernia with thick indurated sac there may be difficulty. Ordinarily you can pick up and divide each layer separately. The moment you slit the peritoneal layer there is a flow of liquid of greater or less amount. To release the strangulation a very slight nick ordinarily suffices. Slight adhesions in the contents of sac may be separated, but if extensive and the history is that of an old hernia long down, you will have to be satisfied with releasing the strangulation. If the sac contents, whether omentum or intestine, be necrosed you must generally leave it and drain the wound. In some cases necrosed portions of omentum had better be cut away and cat-gut ligatures applied to bleeding vessels.

Direct Inguinal Hernia. This requires similar treatment to the last mentioned, and great care should be exercised in picking up the layers external to the sac,

[1] This method I have not seen described in any book of surgery nor by any surgeon.—S. W. D.

remembering always that the internal epigastric artery lies external to the sac.

Crural Hernia. Do not mistake for omentum a layer of fat lying beneath the fascia propria. "Feel for obturator artery before cutting."

Obturator Hernia. This is rare. The incision is begun above Poupart's ligament at a point midway between spine of pubes and artery, exposing fascia covering pectineus muscle. Divide its fascia and separate the fibres of this muscle. Then dividing fat and separating fibres of the obturator muscle you can place your finger on the outlet of the obturator canal. Other rules apply as in the treatment of hernia above explained.

CASES OF STRANGULATED HERNIA.

July 2, 1874, M. D., age eighty. Large scrotal hernia, left. Seen at night, symptoms indicated strangulation. Ordered opium and hot compresses. Consultation in morning with Drs. Nichols and Wyman. Ether, aspiration and taxis failed to reduce. Cut down upon neck of sac with T incision. Dilated ring with the fingers. Failed to reduce and opened the sac. Nicked upper border of ring with hernia knife and reduced easily. Wound dressed antiseptically. All went well for four days. Wound closed kindly without tenderness or redness. Patient had a chill followed by swelling of left parotid gland, followed soon by inflammation and imperfect suppuration. This was opened but patient sank and died on the seventh day with symptoms of blood-poisoning. This occurrence may be cited to show the sympathy between the testis and parotid gland, as in mumps.

Mrs. H., American, age seventy. Right crural hernia. Symptoms of strangulation for two days. Directed hot applications, left her and returned after a short interval prepared to operate. Gave ether and aspirated a small amount of dirty fluid. Then, after a careful and not severe taxis reduced the hernia. Patient sank in twenty-four hours. Treatment, stimulants and opium. I think in this case, not alone because the patient was old, but because of weakness of age, delay was fatal.

Dr. Driver showed specimen of a hard thickened hernial sac, crural, and a section of the large intestine in which was a segment of dark brown tissue marking the point where one-third of the lumen of the tube had been caught in the sac; there had been no necrosis of tissue but only intense congestion.

History. English woman; good circumstances, age eighty-two. Subject for many years, in August and September, to attacks of vomiting and later diarrhœa, caused generally by eating fruit or vegetables. On Sunday she ate peaches, on Monday complained of pain, nausea and vomiting. Wednesday vomiting recurred during night and at noon was reported to be stercoraceous. I had known patient for many years, had attended her in many similar attacks, but had never had any report of a tumor or swelling in her groin or anywhere else. On the appearance of this new symptom I examined for hernia and found this tumor in left groin. In consultation next morning Dr. Wyman aspirated a few drops of fluid and then reduced by taxis. Patient sank during following night. Autopsy showed no peritonitis even commencing. Patient died from shock.

These cases teach us the danger of delay in the aged. Where had this hernia been? what its history during all the years of its unrecognized existence?

Symptoms of patient and condition of tumor, not the age of the patient, should be the factors to decide the problem of procedure. In the earlier hours, gentle taxis without ether will sometimes succeed. Failing in this, and always when the case is seen late, the order is, ether, then aspiration, gentle firm taxis, and these failing, cut.

Dr. E. R. Cutler, of Waltham, cited cases, stating that he had operated ten times for strangulation. That the operation presented no difficulties, and if not delayed too late, or if no violent taxis had been employed, was, generally speaking, successful. That the danger was in delay and temporizing measures.

The President, Dr. Adams, in concluding the discussion of the subject, stated that he had lately had the pleasure to hear a paper read before the New York State Medical Association, at its annual meeting in New York, entitled, "The Difference in the Symptoms of Strangulated Oblique Inguinal Hernia," by Dr. Hyde, of Courtland County, New York, and also the question further discussed in a paper by Dr. John W. S. Gouley, of New York. The following is a summary of what was then heard, with one or two observations and illustrations derived from the writer's experience.

Repeated forcible attempts at taxis are dangerous and tend to enhance the risks of the operation which must be afterwards made, by increasing the inflammation and œdema of the parts. Dr. Gouley said that two minutes' trial in a warm bath is all that should be permitted.

By violent taxis doubtless a reduction may be produced *en bloc*, but this is believed to be a rare occurrence. Much more frequently may taxis deceive by causing a disappearance of the contents of the sac or of the fæcal matter in the intestine, while the hernia still remains unreduced and as much a source of danger as ever. An œdema caused by the taxis may also obscure and cover up the true condition of the parts.

The danger from opium is two-fold: first, we may be lulled into a false security and thus be led to defer operation until sphacelation has occurred, an accident especially liable to happen in the aged and in the case of a small omental hernia. Second, opium may cause such a degree of dryness of secretion, accompanied with constipation, vomiting, etc., and such nervous phenomena, as to lead us to think an operation called for when in fact the symptoms are chiefly due to the remedy. This especially in old irreducible cases. And in this connexion the fact should be noted that the doses of opium recommended in strangulation are poisonously large.

When once the diagnosis of strangulated hernia is made, there should be no delay in operating.

Dr. Gouley cited two cases where an operation for hernia was done, no hernia existing; enlarged glands were found and removed, and no harm done.

The age of the hernial strangulation is a very important factor, the age of the patient very much less so.

Successful cases of operation, it is true, are reported after six days, and even it is claimed thirteen days, of strangulation.

It is certain also that old herniæ, of long standing, will endure pretty severe taxis without grave injury resulting.

Symptoms, even in fatal cases, may be almost entirely absent. There may be neither tumor nor pain nor peritonitis nor vomiting.

Of this sort was my first case of strangulated hernia, thirty years ago. Feeble man, eighty years old, a dispensary patient. There were absolutely no symptoms except prostration, constipation and occasional but rare vomiting. On the second day a careful inspection disclosed a slight blush in one of the groins, but no tumor. Dr. R. M. Hodges, who kindly saw the man with me, thought it might be well to explore by cutting. A bit of strangulated omentum not larger than a small pea was found sphacelated. The man died soon after.

In general, it may be said that the symptoms, local and general, are less severe in inguinal, (especially oblique), than in femoral hernia, and that there is less danger in operating.

In the summer of 1882, Mrs. E., wife of a well-to-do farmer, age about fifty years, and of rather delicate constitution, was attacked somewhat suddenly with symptoms of strangulation. On examination an irreducible inguinal hernia of the left side, about as large as half a hen's egg was disclosed, which had existed for years, had never given her any trouble, and for which she had never used a truss. It was slightly tender, there was colic pain, with tympanites, obstinate constipation, vomiting, etc. She was treated with opium, rest, turpentine stupes and injections; and at the end of a week, without resorting to taxis or any other means, recovered.

In the summer of the next year she had another attack with the same or similar symptoms. In this second sickness there was no œdema, swelling, nor tenderness in the region of the tumor, and scarcely any pain. Feeling great confidence that the same happy result would follow from the use of opium as in the former seizure, the same treatment was ordered again. Her condition becoming alarming, she was seen by another physician in my absence. An operation was advised and practised, and a condition of gangrene disclosed. She sank a few hours after.

NEW YORK ACADEMY OF MEDICINE.

STATED meeting, February 3d, 1886.

DR. M. A. STARR read a somewhat technical paper on

THE INTRA-CEREBRAL TRACTS, THEIR PHYSIOLOGY AND ITS BEARING ON THE DIAGNOSIS OF LESIONS OF THE CENTRUM SEMI-OVALE,

which was illustrated by different specimens of brains prepared in such a way as to exhibit the three sets of fibres, the projection, the commissural, and the association fibres.

DR. A. G. CAILLE read a paper on

PERMANENT DRAINAGE IN ASCITES.

He began by relating the case of an elderly gentleman who applied to him for treatment about four years ago, suffering from cirrhosis of the liver. This soon necessitated tapping and in the course of the next seven months he was tapped no less than nine times. Before resorting to a tenth tapping Dr. Caille determined that he would make a fistula in the abdominal walls, and put in a permanent drainage-tube. He therefore made an incision one inch in length in the linea alba below the umbilicus, and inserted an inch of drainage-tube into the peritoneal sac; retaining it by means of a varnished safety-pin, and using antiseptic precautions in the dressings applied. In about a week an eczema of the abdomen and thighs developed, owing to the fact that the patient could not keep himself dry by means of the cloths with which he was supplied. The abdomen and thighs were then smeared with mutton tallow, and the eczema disappeared in six days.

The result of the permanent drainage was, that the general œdema and all the other distressing symptoms from which the patient had been suffering, disappeared. He was soon able to go about with ease, and for nine months was able to attend to his ordinary avocations, contented and comfortable. He finally died from heart failure. When the drainage-tube was first put in from two to three pints of fluid were excreted daily; but this gradually diminished, until it ceased entirely, and the ascites never reäppeared. An autopsy was made; when it was found that there was cirrhosis of the liver, with cardiac hypertrophy. There was not the slightest evidence of peritonitis at the point where the tube had been inserted.

A second case was that of a man forty-six years of age, who had been a confirmed whiskey drinker, and who was suffering from cirrhosis of the liver, ascites and general anasarca, with all the distressing symptoms usually attending such a condition. He also had purpura hæmorrhagica, stomatitis and vomiting, and the heart's action was irregular and miserable. He was tapped once, and then the fluid reäccumulating, Dr. Caille made an opening, and inserted a drainage-tube in the same manner as in the preceding case; protecting the parts with iodoform gauze and dry towels. When the patient was in bed or sitting in a chair, a rubber tube conveying the fluid to a vessel on the floor was often attached to the drainage-tube. There was at once great improvement in the general condition; but about three weeks after the fistula was made, the patient suffered from a severe attack of epistaxis, which necessitated the plugging of the posterior nares. The purpura, vomiting, stomatitis and other troubles then disappeared, and he lived in comfort, without any return of the ascites, for a considerable period; finally dying of paralysis of the heart. In this case no autopsy was made.

Of course, he said, it was not claimed that this treatment was curative. Its object was simply the amelioration of the troublesome symptoms always associated with ascites. All the points involved in it were comprehended in a discussion of four questions. The first was, what are the symptoms most troublesome and dangerous in ascites? Ascites might occur alone, or associated with general anasarca; but in either case, dyspnœa, flatulence, constipation, debility, renal trouble from the pressure of the fluid, and a host of other troubles were liable to ensue.

The second question was, how is collateral circulation established in cirrhosis of the liver? At some length, Dr. Caille pointed out the various channels through which this might be accomplished.

The third question was, will absence of intra-abdominal pressure promote collateral circulation, the functional activity of other organs, and the comfort of the patient; as well as tend to prolong life? This he answered in the affirmative.

The fourth question was, how is drainage best accomplished? It could not be denied, he said, that the large amount of fluid which was drawn from the sys-

tem by the method which he advocated, constituted a considerable drain upon the vital forces, and he showed what an amount of albumen would thus be abstracted in a given time; but, on the other hand, this was of comparatively little importance on account of the benefit derived from the better performance of the functions of other organs which resulted from the establishment of drainage.

He then went on to say that the *technique* of the proposed plan of procedure might be improved upon. For instance, a hard rubber or glass tube might be employed and a flat bag or antiseptic pad, to be worn on the abdomen below the fistula, might be provided. In all cases it was necessary that antiseptic precautions should be observed; though the danger from penetrating the peritoneum was found to be much less when ascites was present than under other circumstances. A large experience, he said in conclusion, was needed to determine the indications for permanent drainage, and the cases in which it was applicable.

The President, DR. A. JACOBI, said that the procedure described in the paper was an imitation of what is sometimes accomplished by nature spontaneously. Spontaneous rupture of the abdominal walls might take place in ascites, and it was not an infrequent occurrence. It sometimes took place in the linea alba, but most commonly at the umbilicus. The fistula made by nature, however, might be in a spot that was inconvenient or uncomfortable for the patient; but when the surgeon made an artificial fistula he could select the place which would be in every way most satisfactory. Not long since he had seen in the German Hospital a patient in whose case a spontaneous fistula had been already established when he came under observation. While he remained in the hospital he lost fifty pounds in weight, and he went out feeling comfortable and able to work.

He then related another case in which he said he had to resort to permanent drainage. This patient was a young woman, twenty-three years of age, in his service at Bellevue Hospital, who had a history of anæmia and chlorosis; having been nineteen before she began to menstruate. For six or seven months before admission menstruation had ceased, and some six months before the cessation she had noticed a circumscribed swelling in the right hypogastric region. This gradually increased in size until she came into the hospital, when it was found that the tumor was quite large. At that time, however, it was two-thirds in the left hypogastric region, and only one-third in the right. There was decided tympanitis in the renal region and over the ascending colon. From the fluctuation recognized through the tumor he decided that it was a cyst, and probably an ovarian cyst, originating in the right ovary. The uterus was normal.

An abdominal incision was made with a view of removing the tumor; when it was found that there was no cyst at all. The condition present was, in fact, ascites, with abundant adhesions on both sides; and a glass tube was left in the abdominal opening for six weeks. In the meanwhile, the fluid did not return, and the patient was discharged in an improved condition. Afterwards, however, he learned that there had been no reäccumulation. In this instance the ascites was probably due to tubercular peritonitis, and the fatal termination was only a matter of time. Dr. Jacobi remarked that a number of years ago he had made precisely the same mistake in diagnosis; but it was one to which all were liable, since ascites when thus circumscribed by adhesions presented exactly the same characteristics as an ovarian cyst.

A third case which he related had come under observation after he had become acquainted with Dr. Caille's method of procedure. The patient had cirrhosis of the liver, and suffered from icterus, purpura, epistaxis, dyspnœa and loss of strength. He introduced a trocar through the abdominal walls midway between the umbilicus and bladder, and through this inserted a sterilized tube into the peritoneal cavity. To this was attached a rubber tube to convey the fluid to a pail under the bed. This procedure was adopted as a palliative measure to give the patient, who was in a hopeless condition, as much comfort as possible, and the tube was kept in position until he died. At night it was usually plugged up with wax. The quantity of fluid which flowed through it at first was extremely large, but gradually became smaller and smaller. The general condition of the patient after the operation was favorable; but he finally died from exhaustion. At the autopsy there was not the slightest evidence of local peritonitis found. Dr. Jacobi said, in conclusion, that he was convinced that the plan proposed was a good one, and that he should repeat the operation whenever suitable cases presented themselves.

DR. LINDLEY inquired whether any medicinal treatment for the relief of the condition was used in Dr. Caille's cases, in addition to the establishment of permanent drainage.

DR. MEYER stated that he had had under his charge a case of cellulitis ending in a large accumulation of pus, in which a fistula was spontaneously formed below the umbilicus. In this instance he made a counter-opening from the peritoneal cavity into the vagina, and through this the pus had been discharging for the last two years. The quantity had, however, been gradually diminishing, and the cellulitis was also decreasing. In ascites also, occurring in females, it had occurred to him, therefore, that it might be advisable to make an opening into the vagina.

In reply to a question from the chair whether in the case mentioned, he was sure that the pus was in the abdominal cavity, Dr. Meyer said that he was positive of this, and that the patient had previously had peritonitis.

Dr. Caille having stated that in his cases great care was used in the selection of food, but that no medicine had been used with the exception of Horsford's Acid Phosphate, Dr. Lindley said that among the Dutch in South Africa he had found that honey was held in very high repute in cases of abdominal dropsy. He then related a case of his own there, in which, after tapping, the fluid rapidly reaccumulated. He was then persuaded by some of the old women to try the effect of honey; when to his surprise, the man, although he had every indication of cirrhosis of the liver, began to improve, and in time was apparently entirely cured. He would not pretend to give any explanation of this, but thought that it was worthy of note that the people there had such universal confidence in the efficacy of honey.

DR. B. F. SHERMAN, of Ogdensburg, suggested that the peculiar virtue of the South African honey might perhaps be derived from the flowers from which it was gathered by the bees.

DR. JACOBI then made some remarks on the medicinal treatment of the affection in question. He was

confident, he said, that he had seen cases of cirrhosis of the liver getting perfectly well; but it was to be remembered that an interstitial hepatitis was not necessarily a universal hepatitis, just as interstitial nephritis, myelitis, and encephalitis might be partial, instead of involving the whole extent of the organ affected. In a number of cases which had come under his observation in which the diagnosis of cirrhosis had been made by himself and others, the ascites had disappeared, and now returned; the liver getting smaller, without a corresponding enlargement of the spleen, and the patient becoming practically well.

The treatment was to his mind simple. When he met such cases of interstitial inflammation in practice, and could make out a history of syphilitic trouble, we always congratulated ourselves and the patient on this account, because of the more favorable prognosis which it enabled us to make; there being a fair chance of recovery as a result of an appropriate course of treatment with iodide of potassium and bichloride of mercury. He then remarked that as a student he had been taught that it was a cruel thing to give mercury; that it was antiplastic, and that if with it you succeeded in curing the disease present in any case, it was only to destroy the patient with the remedy employed. Except in syphilitic cases, therefore, for a number of years he used no mercury whatever in his practice. During the last ten or fifteen years, however, he had been endeavoring to make up for this mistake in regard to this really most useful agent. He had found by experience that in various forms of interstitial inflammation, mercury was often very beneficial, and in this connection he related a case of tabes which he had had under his observation for about twenty-five years. For a long time there was no improvement, although nitrate of silver and other agents had been faithfully tried; but since he had resorted to the use of mercury there had been marked progress, and the patient, although he had never had syphilis, was now practically well.

In interstitial hepatitis, nephritis, myelitis, and encephalitis, therefore, he would recommend the use of mercury; and it should be given in such a form and in such doses as could be taken for a long time. As a rule, the bichloride was the most suitable preparation and it might be given, largely diluted, in solution, or preferably in pills; the ordinary amount called for being about one-tenth of a grain three times a day. The patient should be instructed to use a chlorate of potash wash and to carefully watch his gums. The cyanide of mercury had been recommended by some; but he had had little experience with it.

NEW YORK NEUROLOGICAL SOCIETY.

STATED Meeting January 4, 1886. The President, W. R. BIRDSALL, M.D., in the chair.

A CASE OF SOFTENING OF THE CORPORA STRIATA, WITH SPECIMEN.

DR. J. C SHAW related the case, that of a gentleman thirty-eight years of age, whom he saw for the first time in July, 1883, in consultation with Dr. Fuller. The patient was a large man, healthy in appearance. About a month previously he had an attack of hemiplegia on the right side, with very temporary loss of consciousness. When Dr. Shaw saw him the arm had entirely recovered, but there was still dragging of the leg. The tendon reflex of that side was exaggerated. There had been no premonitory symptoms except that for six months previous the patient had at times been exceedingly irritable. He denied having had headache, or syphilis, and claimed that if it were not for the paralysis of the leg he would be in perfect health. At this time Dr. Shaw was in some doubt regarding the nature of the lesion; the diagnosis seemed to lie between cerebral hæmorrhage and a possible meningo-encephalitis. Against cerebral hæmorrhage was his age and the dragging of the foot, the toe scraping the floor; and about the only point which favored meningo-encephalitis was mental irritability. The patient would take no medicine except cathartics.

Dr. Shaw saw him again in consultation in June, 1884. He had suddenly become completely hemiplegic upon the left side; was unconscious and had stertorous respiration; he passed his urine and fæces in bed. Recovery gradually took place from this unconscious state. Paralysis remained on the left side. Trophic troubles began in the joints of the paralyzed arm, accompanied with pain. Patient would cry when spoken to, and could give no history of himself. At this attack Dr. Shaw concluded that there was cerebral arteritis, probably syphilitic, and thrombosis. The patient accused his wife of infidelity, became very noisy at night, and was sent to an institution, where he died in October, 1884.

At the autopsy the viscera appeared to the naked eye to be normal. Nothing special was observed in the meninges. Then ventricles were distended with fluid, and contained granulations. The corpora straita were softened, due to arteritis of both middle cerebral arteries and their branches. There was secondary degeneration in the cord on both sides, and the case seemed to illustrate the unequalness of the decussating fibres on the two sides. The degeneration on the right side in this instance being much more marked than on the left.

Dr. Shaw said that the points of interest to him were, that both arteries should have been involved in the arteritis, causing softening of the corpora straita on both sides. That the patient saw dogs, etc., at night, which might have been a form of visual hallucination. Lastly, the accusation of his wife of unfaithfulness, a symptom which is frequently met in chronic alcoholics, but rarely in other conditions.

DR. E. C. SEGUIN asked if there was not probably involvement of at least one internal capsule.

DR. SHAW replied that there was, and that the case probably was not one of limited involvement of the corpora striata.

DR. SEGUIN thought a point of interest was the fact that granulations were found in the ventricles, for this was a rare pathological condition except in general paralysis. It was sometimes found in other conditions, as chronic mania.

DR. SHAW said the granulations in this case were marked. He had seen granulations on the floor of the ventricles in a variety of conditions, in the chronic insane and others. Sections of the cerebral cortex did not show the lesions characteristic of general paralysis. Dr. Seguin may have noticed that the patient was unusually satisfied with his condition, almost amounting to delirium of satisfaction.

DR. GRACE PECKHAM then read a paper entitled,

MIRROR WRITING AND OTHER PATHOLOGICAL CHIROGRAPHY OF NERVOUS ORIGIN.

The paper was introduced by a reference to the expression of individuality in handwriting. "As the members of the body are the servants of the brain to carry out its will in motion, as the vocal organs express its thoughts in sounds, so in the act of writing the hand embodies the subtleties of cerebral action; it is therefore in writing that we may find express deviations from normal nervous conditions, sometimes too slight to be indicated in any other way."

The physiology of the handwriting was next considered. Poore's views with regard to the muscles employed in the act of writing were quoted. At no time in the act of writing are fewer than two nerves engaged. The cerebral centres which preside over writing and the inter-commissural tracts are not fully made out. Charcot and others think there is a word motor representative centre situated at the base of the left third frontal convolution, near Broca's centre of speech; auditory centres, employed when writing to dictation, in the temoral convolution; ocular centres, used when copying, in the parietal convolution.

We have a right-handed writing to be written with a centrifugal motion, in one direction, across the page from left to right, a writing which taxes the weak muscles of the hands, and which takes four or five times as long as is necessary for the representation of a word as is shown by stenographers who write as fast as a person can speak. In view of the increase of writer's cramp due to the extraordinary amount of writing to be done by book-keepers, book-writers, teachers and savants, it was suggested that a new method of writing should be intelligently discussed and one inaugurated which should be less elaborate, less taxing upon the small and weak muscles of the hand; a handwriting in which the letters can be formed as in the phonograph, disconnected, not requiring such precise and complicated motion to make them legible, and which can be written from above downward, from right to left or left to right, as one may choose.

Bianchi, in Italy, and Erlenmeyer, in Germany, were almost the only ones who had entered into the study of the pathological signification of the handwriting. The subject had been considered in a disconnected way as a symptom of some diseases treated of in various text-books. However remotely alluded to, there had been a general acknowledgment of the value of a diagnostic sign of the handwriting of disease.

The handwriting may become pathological through the alteration of any portion of the mechanism involved in its production. The paper included only a discussion of the changes produced by abnormal conditions of the nervous apparatus. Alterations in the handwriting may be mechanical or psychical, ataxic or tremulous, or a mingling of the two forms. The ataxic is physiological when seen in childhood, before the power of co-ordination of muscles for the complex act has been acquired. The tremor is physiological in the handwriting of the aged, in which also is seen a tendency to retrograde into childish handwriting. The principal pathological handwritings are: —

(1) Handwriting resulting from trauma to the nerves. (2) Mirror writing and agraphia, caused by injury to the cerebral centres. (3) Handwriting of general paralysis, caused by alteration of cerebral tissue. (4) Handwriting caused by sclerosis, cerebral and spinal. (5) Handwriting caused by functional disturbance, including paralysis agitans and writer's cramp.

Samples of handwriting can be shown occasioned by the interference with the conducting nerve-fibres. Erlenmeyer exhibits a very curious specimen in which there was injury to the radial nerve. The tremulousness, or, rather, interruption of the lines, especially of the upper stroke, is very peculiar.

It is to be regretted that handwriting following injury to nerves has not been more studied, as much of interest from a physiological as well as a pathological point of view might be attained.

At present, considerable discussion has been awakened with reference to mirror writing. Ireland called especial attention to it by his paper in *Brain*, in 1883. Hughlings, Jackson and Buchwald, first discovered mirror writing. From experimentation and investigation of the subject the writer reached the following conclusions: —

First. That mirror-writing may indicate a change in the perception of the nerve-centres of the brain, what Erlenmeyer would call retrographia. The patient suffering from this would read the reversed writing certainly as easily as the normal. This would be a means of diagnosis between a cerebral mirror-writing and one from mechanical causes alone.

Second. That from twenty-five careful examinations of cases on record no indication has been found that the mirror-writing occurred from other cause than a mechanical one; that is, the person writing with the left hand could do so more easily in a centrifugal than in a centripetal direction, the former association of ideas and muscular action making this so. Therefore a person weakened by disease, weak-minded children, and left-handed persons, would write centrifugally, or mirror-writing. The reason lies, therefore, not in a pathological, but in a physiological condition.

The subject of agraphia has been much discussed of late with that of aphasia. It was first spoken of by Marce, in 1856. There are very few cases of agraphia uncomplicated with aphasia on record. In agraphia, there may be word blindness, word deafness, or a volitional motor disturbance resulting in inability to write. The investigators of the subject have entered deeply into the discussion of the seat of the writing centre in the left hemisphere. The unilateral theory is not so fully endorsed as hitherto.

The diagnostic value of the handwriting in agraphia resides in the evidence it gives of the extent of damage done to the brain tissue in these cases of hemiplegia, and also an indication of the location of the trouble.

In the early stages the handwriting of the insane indicates little the invasion of the disease, but when there is bad spelling and omission of words it should awaken suspicion. The progress of the malady is marked by changes in the handwriting. It is the reverse of that of childhood. In the first stage there is a diminution of the handwriting, a running of the words together, and either not finishing the final letter or terminating it in an irregular outline or dropping it entirely. The letters are shaky, irregular, and there is a plentiful besprinkling of capitals. Later the letters are coarse, irregular, in uneven lines, and finally there are scattered pot-hooks and ataxic marks, like a child first learning to write.

The handwriting of multiple cerebro-spinal sclerosis is characterized by tremulousness.

In locomotor ataxia involving the upper extremities

the changes are shown early when writing with the eyes closed, especially in round letters and l and e. They are formed by straight lines, more or less extended, instead of curves. When the disease is further advanced the writing is ataxic when the eyes are open, though not so much so as when they are closed. Later there is inability to write a single word.

The functional disturbances of the handwriting include the handwriting of paralysis agitans and writer's cramp, as also that of chorea and hysteria. In the two latter there is nothing of special diagnostic value. The writing of paralysis agitans shows the tremor in the early stages. Even when the handwriting looks normal to the naked eye, a glass will reveal the peculiar character given it by trembling. In writer's cramp the writing shows many forms of disturbance, and were there no history it would be difficult to say whether we were dealing with some of the various forms of tremor, paralysis agitans, progressive muscular atrophy, etc. A study of the handwriting will, however, reveal the nature of the disturbance, whether it is of the spastic, tremulous, or paralytic form.

DISCUSSION ON DR. PECKHAM'S PAPER.

DR. E. C. SEGUIN said that in his practice he had frequently derived considerable help in diagnosis from the patient's handwriting. He thought the medico-legal aspect of pathological handwriting might after further study assume considerable importance. It would be of value to be able to say in a court of law whether a given specimen of handwriting were that of an aged imbecile, a general paralytic, or an intoxicated person.

DR. LESZYNSKY thought he could hardly say from the specimens of handwriting of paralysis agitans presented that they were characteristic of that disease. He had a number of specimens of handwriting of chronic alcoholismus which were almost exactly similar. Dr. Peckham had not mentioned the handwriting of epileptics, nor had he read of anything characteristic about it, but he could recall two epileptics whose handwriting appeared to be rather unique. In some epileptics there was the condition known as the echo sign, being a repetition of words during conversation. He had seen the same thing manifested in the writing in two cases. He had recently had a case of telegrapher's cramp in which the movements were markedly ataxic, being without any control.

DR. PUTNAM JACOBI had been struck by the great varieties and peculiarities in the handwriting of persons in usual health. Some of the peculiarities supposed to be more or less characteristic of the handwriting of diseased states were also observable in the handwriting of certain persons in a state of health. For instance, Dr. Jacobi was unable without giving special attention to write in a direct line across the page: the line always sloped downward. The question had suggested itself to her whether in the case of the insane the tendency, especially after writing for a while, to slope the line downward and to use capitals profusely, was not due to mental fatigue; and the use of capitals might be due to a desire to emphasize an idea which a fatigued and feeble brain was incapable of correctly expressing.

DR. DANA said he did not think it would be practical for everybody to learn shorthand instead of other writing, but he thought some modification of shorthand might be adopted. There would result perhaps greater facility of expression if present methods of writing were simplified, but there would no doubt be an increased amount of writing which perhaps would be a greater misfortune.

Regarding mirror-writing he thought it was physiological. When we educate the centres to write with the right hand we at the same time educate to some extent the automatic centres for left-hand or mirror-writing. If a person put a pencil in either hand and attempt to write his own name, he will find that the left hand will write mirror-writing while from the right hand the usual writing will result. If then by hæmorrhage the centre for right-hand writing be destroyed it would be perfectly natural for the centre controlling left-hand writing, if not corrected by the will, to produce mirror-writing.

DR. A. B. JUDSON presented a specimen of mirror-writing by a negro girl, eleven years of age, produced ten years ago. She had slight right hemiplegia, but was able to perform household work with the right hand, and she could also write somewhat with it. The writing with the left hand was a fine specimen of mirror-writing.

DR. PECKHAM closed the discussion, and said that the echo sign, the repetition of written words, was well shown in the third specimen presented, that of a woman who had right hemiplegia and amnesic agraphia. Regarding the use of capitals and the tendency to underscore by the insane, she thought it in harmony with their exaggerated ideas.

Recent Literature.

Manuel de Technique des Autopsies. Par BOURNEVILLE et P. BRICON. Avec 16 figures et 5 planches. Paris: Librarie du Progrès Médcal. 1885.

This little book fulfills the purpose which its authors have indicated in its title. It is a concise and excellent guide-book for the performance of autopsies in accordance with scientific methods. It tells us what instruments to use, and how to use them; it describes the order in which the various organs should be examined, and explains the best way of their external and internal inspection.

With each step in the process, it gives a brief mention of the abnormal changes which may be found and which should be sought. In all this, the principal part of their work, the authors have given in new language, and with more or less elaboration in details, that which was already familiar to most students of pathological anatomy in the well-known manual of Virchow. To those who wish a safe and eminently practical guide through the somewhat mazy details of a full autopsy, this book may cordially be commended.

In addition to the purely technical matters relating to a post-mortem examination, the book contains interesting chapters on the bibliography of the subject, on the social and legal usages of various countries relating to autopsies, and on preservative processes and agents. It seems to have escaped the authors' recollection that most geographers make mention of a nation called the United States; it is satisfactory to learn that at Port-au-Prince, in Hayti, autopsies are made soon after death, because the climate promotes early decomposition, but why Port-au-Prince should be distinguished as the only locality on this side of the Atlantic worthy of any mention, is left wholly to the imagination.

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PTOMAINES AND LEUCOMAINES.

PANUM in 1856 demonstrated that there exists in animal substances undergoing decomposition a poison of extreme activity. Armand Gautier, in 1870 discovered in the muscular juice of healthy animals, and even in their urine, certain alkaloids which he called *leucomaines*. In 1876 Selmi, in searching for arsenic in a cadaver that had been exhumed after thirty days' burial, discovered a toxic and crystallizable principle to which he gave the name *ptomaine*. All these animal alkaloids are similar in their nature to those produced by plants, but are supposed to be either a product of simple chemical decomposition, or a secretion of the animal cell under certain conditions (like vegetal poison) or else the work of bacteria.

These alkaloids are markedly toxic. Gautier's leucomaines have an action on the economy similar to that of strychnia; they more nearly resemble, however, the fly fungus muscarine in their physiological effects; among these are stupor, tetanic convulsions, cardiac irregularities with finally death by tetany of that organ. Brieger has recently found a base by the action of ether on nerve tissue, to which he has given the name of *neuridine;* it is non-toxic, but by simple exposure to air in a watery solution it is converted into that deadly poison muscarine; this same experimenter also claims to have obtained an alkaloid of the nature of ptomaine from the action of gastric juice on fibrin. Tanret, the well-known French pharmacist, has announced that alkaloids are generated by the simple contact of peptones with alkaline salts, while Bouchard and Arnold have completed researches in this direction by showing that toxic alkaloids of the nature of ptomaines may be extracted from fæcal matters.

In a remarkable communication lately presented to the Academy of Medicine, France, by Dr. Gautier, on "The Alkaloids Derived from Bacterial or Physiological Destruction of the Animal Tissues,"[1] are given some facts regarding these ptomaines which are worthy of reproduction in this connection. The ptomaines form salts such as sulphates, hydrochlorates, etc. The free ptomaines have some of them a pungent, some a urinous odor, some smell like hawthorn, some like wild rose, or orange flower. They have for the most part a piquant savor, which benumbs the tongue and is attended with a choking sensation.

Gautier gives the process of obtaining some of the principal animal alkaloids. Putrefying meat is subjected to the action of ether, and certain alkaline principles are dissolved out, which resemble at once sperm and methylamine. The alkaloids are isolated by evaporating off the ether; they are then dissolved in water. A gramme of this solution injected in a dog produces stupefaction, tremblings, chronic spasms of all the muscles of the trunk, slowing of the respiration and death after forty-five minutes. The heart is found arrested in systole.

After exhaustion of the putrefied viscus or muscle by ether, new alkaline bases may be got by subjecting the same parts to the action of chloroform. The solvent being evaporated away the residual ptomaines are taken up by acidulated water. A subcutaneous injection of the latter causes death in the dog with symptoms similar to those produced by veratrin or digitalin. If the residue of the ether and chloroform maceration be exposed to the action of amylic alcohol still a third series of ptomaines is extracted, which, injected in frogs, cause general anæsthesia and prostration and death after a few minutes. These ptomaines were obtained by Dr. Gautier from a human cadaver exhumed after being buried ninety-six days.

These are some of Gautier's conclusions:

(1) The fixed cadaveric alkaloids or ptomaines are venomous to a high degree.

(2) The free ptomaines are more poisonous than their salts, and those are especially toxic that are soluble in ether.

The principle phenomena to which they give rise in the frog are the following: (1) Dilatation, followed by contraction of the pupil. (2) Tetanic convulsions, followed by muscular flaccidity. (3) Slowing of the heart. (4) Absolute cutaneous anæsthesia. (5) Loss of muscular contractility.

In the dog similar phenomena are observed; death is preceded by somnolence and convulsions. These symptoms resemble those produced by muscarine.

Gautier, in some of his experiments, found a nitrogenous base, with formula $C^8 H^{11} N$, which he named *hydrocollidine*, the symptoms following the injection of which in birds and small animals resemble those of the venom of the most poisonous serpents, the cobra di capello, for instance. One milligramme kills a sparrow in an hour, with general spasmodic agitation and paralysis.

Continuing his investigations, the author of the memoir from which we are now quoting announced in 1881 that there constantly appear in the excretions of living and healthy animals bodies of the nature of ptomaines. He showed that the alkaloids of the urine discovered by Liebreicht and Pouchet ought to be classed along with the alkaloids of putrefaction

[1] Session January 12-19, 1886. (Journal des Societés Scientifiques, January 13-20.)

already known; similar alkaloids have been found in the saliva and in the muscles; among the latter he designates xanthocreatine, crusocreatine, and pseudoxanthine. Gautier gives to all these the name of *leucomaines* to distinguish them from the cadaveric alkaloids. These divers alkaloids, according to this writer, accumulate in the blood, when for various reasons the skin, the kidneys and the digestive tube fail to eliminate them; they there exercise pathological influences more or less disastrous to the entire economy. Some idea of these effects may be gained by noting the results of the injection in animals of several of these new *leucomaines*, of a perfectly defined and crystalline character, which Gautier has extracted from muscle juice; these results are chiefly somnolence, prostration, sometimes vomiting and purging. The leucomaines are, however, less active than the ptomaines. These alkaloids are incessantly formed during health, and are as much products of disassimilation as urea, carbonic acid, creatine, etc.

According to Gautier, we resist incessant auto-infection by two distinct mechanisms; elimination of the toxic principle, and its destruction by oxygen. Elimination by the kidneys can be proved, and the same experimenter has always detected alkaloids of the nature of ptomaines in normal urine, though in feeble quantity and the proportion materially augments in certain pathological states such as typhoid fever and cerebral diseases.

Elimination by the digestive tube is also probable, but the problem is rendered somewhat complex by the fact that ptomaines are constantly being formed in the intestines owing to the action of bacteria on the fæces, and these alkaloids are likely to be absorbed when any cause prevents their due removal in the stools.

But the most powerful means of elimination of these bases is their constant combustion by oxygen. The greater part of these poisons are very oxidizable, and it is by the vivifying influence of constantly renewed supplies of oxygen in the normal state that they are burned in the blood, perhaps also in the tissues, and disappear. Hence, normally, we find but a small proportion of muscular leucomaines in the urine.

But let any cause, whatever, diminish the access of air to the blood, or let the quantity of hæmoglobin diminish as in chlorosis and anæmia, or let some substance interfering with hæmatosis be introduced and there will soon be an accumulation of azotized substances of the nature of ptomaines and leucomaines. It is in accordance with this theory, says Gautier, that we may explain the nervous troubles of chlorosis, anæmia, pregnancy, and the beneficial influence of respirations of oxygen, the only means thus far known of combating efficaciously this vomiting, which is without doubt provoked by the retention in the blood of a poison imperfectly eliminated, or incompletely burned. "May we not be allowed to ask," adds the same writer, "if fever itself, which coincides with a minimum consumption of aliments and an inversely proportionate increase in the carbonic acid eliminated, and the oxygen consumed, also with a quickened circulation, may not have for its consequence the destruction of a poison which has been formed in excess in the economy?"

The therapeutic deduction which M. Gautier would draw from the above considerations is the beneficial effect likely to be obtained from whatever can excite the functions of the skin, the kidneys and the intestines, and what is perhaps of still more importance the powerful disinfection likely to accrue to the economy from everything which energizes respiration and hæmatosis.

EARLY LAPAROTOMY IN INTESTINAL OBSTRUCTION.

FEW questions of diagnosis and treatment are endued with more interest and importance than those of intestinal obstruction, surrounded as it is, by a cordon of doubt and uncertainty in both particulars. Though the admirable work accomplished by Treves is a most valuable contribution to medical knowledge, since it furnishes data which, at least, familiarize one with what may happen to the intestine, the hard fact, however, still presents itself, that patients are allowed to die with symptoms of intestinal obstruction where an autopsy shows, only too clearly, that a human life could have been saved by a timely and skillful operation. This is wrong, and deserves serious consideration.

The opinion of German surgeons, as expressed at Berlin during the past year, emphasized the necessity of an early diagnosis, since in cases capable of relief through surgical interference, complications — for example, peritonitis and collapse — follow rapidly the primary trouble. Hence, the longer the delay, the less the probability of a recovery. It is not the last stages of these cases, where the stercoraceous vomiting and marked collapse of the victim form a picture so characteristic as to admit of but one interpretation, that are so difficult of recognition; but their early development when the symptoms, few and indefinite, may denote merely a functional derangement requiring simple medicinal treatment, or may be the first premonitions of a hidden danger, destined to jeopardize life, and demanding the most prompt and decisive surgical interference.

To be able to positively assert that one case is a narrowing of the caliber of the ileum, or that another is an obstruction due to persistent omphalo-mesenteric structures is a perfection of diagnostic power, which will be most pleasing when acquired; but at present, such accuracy is of minor importance.

We are first called upon to distinguish cases requiring surgical aid, from those capable of relief by medical treatment; and it is at such times when delay is so vital, and the difficulties and uncertainties of diagnosis are so prominent that the absence of diagnostic power is so strikingly felt. It is also at this moment, that the full value of a laparotomy is realized.

Such means of establishing a diagnosis may seem too heroic; but it is not with any desire to undervalue the aid derived from other methods of examination or exploration, or to relinquish our efforts to discover, if possible, some way less extreme by which these cases can be recognized that we give it such an important place. It is desirable to make an accurate diagnosis if possible without laparotomy, but, if in the present state of our knowledge, that cannot be done, it is preferable to perform it than to run a greater risk of losing a patient through delay. One rarely operates too soon, and often too late. In these cases, a diagnosis must be made, and at once. One cannot wait till symptoms develop which permit an accurate diagnosis regarding the nature of the lesion. An operation, to be successful, must be done early, when diagnosis is difficult. Often while a surgeon waits for definite symptoms the golden opportunity escapes him, and he finds, when the case has developed so far as to present unmistakable signs, that he is too late, and is chagrined to discover, as he stands at the autopsy table of his patient, that a single stroke of his knife would have rescued a human life.

What surgeon in the present time would be justified in neglecting to explore an inguinal tumor of doubtful character when accompanied by acute symptoms of intestinal strangulation? Does he hesitate to dissect down upon such a tumor and relieve the strangulation even though he open the peritoneum? Why then in a case of intestinal obstruction with symptoms almost identical in character and fully as urgent should he hesitate to promptly find the cause by the aid of an exploratory laparotomy? The great difference of opinion on this subject is due to great difficulty in diagnosis, and indications for interference are not continued or stercoraceous vomiting, marked collapse, or symptoms equally prominent, but the failure of ordinary means to relieve. This is the real indication, and it is at this moment that the surgeon can by an exploratory incision, and with comparatively little risk, cut through the cloud, which obscures his vision, with the same stroke that divides the abdominal wall of his patient.

Apparently the reluctance of surgeons to interfere in these cases is due to the following reasons: First, the difficulties surrounding an accurate diagnosis. Second, non-familiarity with a methodical examination of the abdominal cavity. Third, lack of knowledge of what may prove to be the cause of the obstruction. Fourth, absence of technique in overcoming these difficulties.

On the other hand, lives are undoubtedly sacrificed occasionally by rash men who never carefully consider the difficulties a surgeon may be called upon to meet in abdominal operations. Genius and inspiration are often asked to fill the place of careful preparation in these explorations, and certainly in no operation should a surgeon more clearly understand what he may be called upon to do than in an exploratory laparotomy where the possibilities for complications and emergencies are almost unlimited. The trust is great; the care in preparation should be commensurate.

The use of massage, electricity, ice, opium and other modes of treatment are frequently harmful, and waste precious time. Pertinent to the danger of delay is the false security given by opium and stomach irrigations, the former of which masks the dangers, while the latter frequently, by temporary alleviation of the symptoms, deceives as to the nature of the case, or its urgency. From this we are lead to conclude, that should recognized medical treatment, as opium enemata and gastric irrigation fail to relieve the obstruction, laparotomy is indicated in all acute and sub-acute cases within forty-eight hours, especially if the diagnosis be undetermined. Regarding chronic cases, with the supervention of acute symptoms, it would seem that after similar preliminary treatment has been fairly tried without success, operative interference is indicated.

This procedure should be an aseptic one, a median incision is to be preferred as one most favorable to a general exploration of the abdominal cavity, unless some clue to the exact seat of the lesion indicates a particular region as the most direct route to the obstruction. It is exceedingly desirable that the examination of the intestine and abdomen should be systematically and rapidly made. For it is only by following some definite plan that an exploration can be thoroughly performed, and with the greatest economy of time.

Without some such method the operator cannot distinguish parts already explored from those still untouched and thus avoid repetition; there is much unnecessary manipulation of sensitive tissues; the shock of the operation is increased by its increased length; and most important of all, great risk is incurred of failing to find the object of search. Instances are not wanting to show these are no fanciful dangers; and a recently reported autopsy, when an easily reduced diaphragmatic hernia had been completely overlooked during an exploratory operation, serves to illustrate one of them.

The following brief rules for guidance in examining the intestines are suggested: Fix upon the most dilated or congested part of the bowel, and follow it with the finger as a guide to the seat of obstruction — congestion and distension are usually most marked at the point of occlusion, and serve as valuable indices to its site. If this fail, insert the hand and carry it successively to the coecum, umbilicus and sacral promontory. If this again fail, the intestine must be examined throughout its entire length. The starting point of this examination should be accurately located either by the fingers of an assistant, or by some anatomical characteristic. The wound is enlarged if necessary. A coil is drawn out of the abdominal cavity, protected by warm antiseptic napkins, examined and replaced if the result is negative. This is repeated with coil after coil until the obstruction is found. The cause being thus discovered, the subsequent treatment varies with

the character of the lesion, and it is here that the value of a careful previous consideration of possible emergencies demonstrates itself.

The operation is apt to be considered finished by the removal of the cause, but no operation for the relief of intestinal obstruction should be considered complete until the over-distended intestines are relieved. This is a matter of great importance; and Mr. J. Grieg Smith considered this over-distension as exerting an important influence on the amount of relief derived from an operation. This surgeon found by experimentation that an intestine distended by injecting the duodenum extrudes from the half-opened abdominal cavity before the liquid fairly reaches the ileum, and that, with the abdomen fully opened, rupture of the peritoneal coat occurs at many points before the fluid escapes from the anus. He therefore concludes that the acute flexures of the distended intestine, caused by its mesenteric attachment, act as a succession of valves at the points of incurvation of the tube, and thus form an insuperable obstacle to the free action of the over-distended half-paralyzed gut.

Should an intestine be left unrelieved its inability to free itself of its contents would render valueless an otherwise effective operation. From the foregoing one would infer that emesis, either spontaneous or artificial, owes what efficiency it possesses to its power of freeing the dilated intestinal tract of liquids and gases.

In some cases where the condition of the patient contraindicates a prolonged operation, or sudden collapse supervenes, the formation of an artificial anus offers a means of relieving the obstruction, and rapidly terminating the procedure. Recently reported cases prove that this is not the intractable difficulty it was once considered to be, for by a properly performed resection operation it can be closed at some future convenient opportunity.

It may seem superfluous to dwell so much on the necessity for a thorough knowledge of the technique of abdominal surgery in these exploratory operations; but, since shock figures so prominently as a cause of death, and its severity is directly proportionate to the duration of the operation, the surgeon's ignorance of details may turn the scale against recovery by the delay thus caused.

A careful consideration of this whole subject of laparotomy in intestinal obstruction will lead, we think, to the conclusion that timidity and conservatism too often delay or prevent a prompt and beneficent operative interference in these most serious cases.

MEDICAL NOTES.

—Professor Vulpian, of Paris, has resigned from the staff of the Hôtel-Dieu.

— Mr. Wm. T. Evans reports in the *British Medical Journal*, December 19, 1885, a case of a newly-born nursing infant which was fatally poisoned by opium given to the mother for after-pains.

— Professor Bartholow recommends for superficial neuralgia, that a five to twenty-per cent. ethereal solution of menthol be painted over the part.

— "Stammering of the urinary organs" is the apt term applied by Sir James Paget to the cases of difficult urination, wherein no pathological change can be found, where the patient has a difficulty in passing water at certain times and places, while at other times and under other circumstances, no such trouble is experienced.

— Many men who display good sense, prudence, and consideration in all that pertains to others, are foolishly careless about themselves. We learn from the *Philadelphia Daily Times*, that General Hancock seems to have illustrated the not uncommon folly of a man who feels himself "out of sorts," but goes about his daily duties without paying any attention to his health until he suddenly breaks down. It is clear that he had been dangerously ill for a long time, but he never consulted his physician, and his friends supposed that he was merely tired or depressed, and that he would be all right in time. The carbuncle, which was partly a symptom of his general condition, brought him to bed, and then the surgeons who were summoned found that he was incurable.

— At about the first of the year, it was stated in the Consular reports from Spain, that cholera morbus was prevalent in Algesiras, five miles from Gibraltar. On January 18, the Consul reported the disease to be Asiatic cholera, and that twenty-two cases and eleven deaths had been reported, and also, that quarantine had been established at Gibraltar. January 23, the Consul reports that no new cases have been reported for several days. Official reports from Italy state that from November 17, the day on which the publication of the Cholera Bulletins was discontinued, to December 28, there were one hundred and thirteen cases and ninety-eight deaths from cholera in Italy, as follows: In the Province of Palermo, fifty-three cases and forty-eight deaths; in the Province of Venetia, twenty-seven cases and twenty-five deaths; in Treviso, twenty cases and fourteen deaths; in Rovigo, twelve cases and ten deaths; and in Emilia, one case and one death.

— That medical advertising has become one of the fine arts is abundantly shown by the following extract from a pamphlet lately distributed among physicians. "The value of wine as a stimulant, in addition to good food in the enfeebled digestion of the aged, has ever been recognized from the earliest time. Ulysses urges upon his aged father a regimen well suited to his waning energies.

> 'Warm baths, good food, soft sleep and generous wine,
> These are the rights of age and should be thine,'

"And Justus von Liebig pronounced wine to be 'as milk for the aged.' . . . At the present time the growing objection to alcoholic stimulants and the spread of the temperance, or even the total abstinence movement, has limited the resort to wine, and this in turn has led to the selection of substitutes of non-alcoholic char-

acter. For those who decline to accept the aid of wine, as did Timothy, who had to be told to 'Drink no longer water but a little wine for thy stomach's sake and thine often infirmities,' and who need something of a stimulant character in order to rouse the flagging powers of digestion, this syrup offers special advantages; and one or two teaspoonfuls in a tumbler of water, form a bitter tonic, sharpening the appetite, and giving tone to the digestive organs, taken before or with meals."

— The *Lancet* calls attention to the unhealthful conditions prevalent in the vicinity of Sandringham, the Prince of Wales's seat, where the princess and other members of the family have recently suffered from sore throat of a diphtheritic character. The estate of Sandringham includes about 7000 acres. It consists of a large portion of very wild, unreclaimed sporting land, and some rich meadow and pasture and salt-water marshes. The death-rate from diphtheria in this portion of Norfolk is in excess of the death-rate from the same diseases in St. Giles', Shoreditch, Bethnal-green, Whitechapel, or St. George's-in-the-East, which are among the poorest and least sanitary districts of London. Yet here is the home of the Heir Apparent and his family, purchased by the advice of the Government at a cost of £220,000. We cannot suppose that in the house at Sandringham insanitary conditions have been permitted to prevail, for it was here the Prince was so seriously ill from typhoid, by which attention should have been forcibly directed to the sanitation of Royal residences. The Prince Consort lost his life at Windsor, though it is suspected he contracted the disease at Sandhurst. The Prince of Wales nearly lost his life at Sandringham, though it is not quite clear where and how he contracted the fever. The Duchess of Connaught's life was in danger in the newly-erected residence in Bagshot-park; and at last the Princess of Wales has been subjected to risks, and with her in all probability others of the family and the many distinguished visitors who have been at Sandringham since Christmas. Our contemporary suspects the undrained marsh lands in this portion of Norfolk, as elsewhere, to be at the bottom of this diphtheritic tendency, and till they are drained diphtheria will prevail. It adds with what must be a fine sarcasm, that the Prince of Wales can scarcely, with his many duties, be expected either to understand or attend to such matters, but his advisers should. Had the Princess died, what would have been the verdict of the people?

BOSTON.

— His Honor, Mayor Grace of New York, lectured at the Boston Theatre last Sunday evening, in aid of the Carney Hospital. About $2,000 was netted for the hospital.

— A complimentary dinner was tendered Dr. Morrill Wyman at the Parker House last week by the Cambridge Medical Improvement Society. Dr. S. W. Driver presided.

— The trustees of the Boston City Hospital gave a hearing last Friday evening, February 19th, to the remonstrants against the petition that homœopathy should take part in the medical and surgical treatment of patients at the hospital. Members of the Hospital Staff were present by special invitation of the trustees.

— The entire force of the Board of Health has been at work since the inundation in examining the condition of dwelling-places in the district affected by the breaking away of Stony Brook, with a view to expediting the freeing of the cellars from water and the overcoming of dampness caused by the flooding. During last week about one hundred houses were reported upon a day. As fast as the reports are received the owners of houses pronounced defective, are officially notified of their condition. Where the walls of cellars have a coating of escaped sewage, thorough cleansing of the walls is required, after which whitewash is freely applied.

NEW YORK.

— The summary of mortality of the State of New York for the year 1885, as published in the monthly bulletin of the State Board of Health shows that the total number of deaths reported during the year was 80,407. Of this number 30,027, or 37.3 per cent. were in children under five years of age. The number of deaths from the principal diseases, is given as follows: cerebro-spinal fever, 446; typhus fever, 26; typhoid fever, 1,067; malarial diseases, 944; small-pox, 33; scarlet-fever, 1,184; measles, 1,170; erysipelas, 354; whooping-cough, 834; croup and diphtheria, 4,508; diarrhœal diseases, 7,301; acute respiratory diseases, 10,864: consumption, 11,238; puerperal diseases, 974; diseases of the digestive system (not diarrhœal), 4,343; diseases of the urinary system, 4,069; diseases of the circulatory system, 4,903; diseases of the nervous system, 8,651; cancer, 1,887. For the entire State, the ratio per 1,000 of deaths from all zymotic diseases to the total mortality in 1885 is 222.17, against 269.12 for nine months of 1884.

— State Senator Griswold, of Brooklyn, has introduced a bill into the Legislature abolishing the present fee system under which from $50,000 to $100,000 is collected annually by the Health Officer of the Port, and fixing the salary of that official at $10,000 per annum, in addition to an allowance of $6,000 for the expenses of the office, to be expended under his direction. It also provides that there shall be first and second assistant health officers at salaries of $3,000 and $2,000 respectively; and that after the passage of the act no fees or charges whatever shall be collected by the health officer in the performance of his duties. It is very doubtful, however, whether this bill will become a law, as the present large revenues of the office constitute too tempting an object in the eyes of the politicians to be thus summarily dispensed with.

— There is still a good deal of diversity of sentiment with regard to the advisability of constructing the contemplated enormous Quaker Bridge dam in

connection with the Croton water supply. The latest opinion in favor of the project is that of Chief Engineer, Benjamin Church, of the aqueduct service, who in a report submitted at the last meeting of the Aqueduct Commissioners arrives at the following conclusions:

(1) It is the surest and most expeditious means of securing the required storage:

(2) Because it will give the purest water.

(3) Because it gives the best control of storage.

(4) Because it is the best safeguard against the stoppage of the city's supply by a possible failure of dams above, to the injury of the Croton dam.

(5) Because without it the supply of the whole watershed cannot be secured, and the size and cost of the new aqueduct will be rendered unwarrantable.

(6) Because it best preserves the healthful conditions for inhabitants in the Croton Valley by keeping the bottom of the reservoir always covered, and prevents local malarial influences.

Miscellany.

A CASE OF PROTRACTED PREGNANCY.

DR. ARNOLD THOMPSON recently reported to the London Obstetrical Society the following case: — The patient was a delicate woman, not long married, who had had a miscarriage previously, occasioned by a shock. After this, menstruation recurred, and the last period ended June, 1884. Her husband left home a week after, and returned on Monday, June 16th, for one night only, on which coitus took place. He left home the next morning and was away for four months. Soon after the husband's departure signs of pregnancy appeared. Delivery took place April 13th, 1885, 317 days after the end of the last menstruation, or 301 days from the last coitus. The dates were absolutely certain. The child was not weighed or measured; it was a female, and appeared of full average size and weight. According to Prussian law the child would be legitimate; according to Scottish law and the French code, it would be illegitimate; in England its legitimacy would be determined by circumstances.

TUBERCULAR MENINGITIS CURED BY IODOFORM.[1]

A SWEDISH physician, Dr. Emil Nilsson, alleges that he has cured an undoubted case of tubercular meningitis by frictions on the shaved scalp with iodoform ointment (1 to 10). The patient was a boy, aged eight, whose mother had a family history of phthisis, and four of whose brothers and sisters had died from tubercular meningitis. The symptoms in this child's case were similar to theirs,— headache, torpor, convulsions, strabismus, and pyrexia. He was at first treated with calomel and iodide of potassium, but did not improve; and, after having been under treatment a week, became distinctly worse, being unable to take food or medicine. The pallor of the face, which had pre-existed, gave way to flushes of the cheeks. The child threw himself out of bed, and presented several clonic spasms of the limbs and of the facial muscles. The head was then shaved and iodoform ointment rubbed in, an oil-skin cap being put on. The friction was repeated three or four times in the day, and the next day there was a decrease in the convulsive movements, the sleep was calmer, and the spasmodic contractions, which had previously been excited by the slightest noise, now ceased to be so. Consciousness shortly afterwards returned, and the child's face became of a more natural color. This, however, was accompanied with a severe coryza, redness of the lips, and an irritable cough, the breath smelling strongly of iodoform. The ointment was discontinued, and syrup of iodide of iron given. The unpleasant symptoms rapidly disappeared, and the child was soon running about in good health.

[1] Therapeutic Gazette, January 15.

NERVE SUTURING.

DR. MICHAEL BEVERLY of Norwich, England, has recently operated with success in a case where the ulnar nerve had been severed by a broken bottle, four months before the operation. A dense cicatrix over the nerve marked the point where the injury had taken place, one and one-half inches above the wrist. There was atrophy of the parts supplied by the nerve, and intense pain when the little and ring fingers were moved.

Under carbolic spray he dissected and found the upper part of the trunk of the ulnar nerve. This was traced down into the tendon of the *flexor carpi ulnaris* with which it was intimately adherent, and accounted for the intense suffering caused by movements of the little and ring fingers. He then dissected until he found the long portion of the ulnar trunk which had retracted and lay just above the annular ligaments. A clean section was made at the end of each part of the nerve trunk and the two fresh surfaces were united by two catgut sutures. The arm was placed on a splint and the hand kept in a flexed position. The wound healed by first intention. Sensation gradually returned into the parts from which it was absent, and it is now, two months after the operation, nearly restored. There is very little difference now between the two hands in either sensation or motion.

THE JUMPERS.

DR. J. D. THORNTON, of the U. S. Marine Hospital Service, gives some account in the *Medical Record*, of the French-Canadians who are victims of that form of hysterical disease recently described under the term miryachit. This affection, characterized by an uncontrollable impulse to imitation, has been noted among the Canadian-French lumbermen who go over into Maine for work. The cause which the writer assigns for the disease is worthy of note, though it seems rather inadequate.

"I had from time to time," says Dr. Thornton, "heard lumbermen and others, whose avocations lead them to spend much time among the French camps, speak of these 'jumpers,' but had given no credence to the, as I thought, absurd stories they related in regard to them, until one day, while attending to my duties in the waiting-room of my fumigating station, I incidentally let fall the window near my desk, by turning

the button suddenly, thus letting the frame fall a short distance, making a quick, sharp noise, when three out of seven French-Canadians who were sitting near, awaiting their certificates of inspection, leaped into the air as if they had been shot, at the same time uttering a yell which would have done credit to a North-American Indian. From that time, I was on the watch for these strange characters, and, when possible, made inquiries of them through my interpreter, in regard to the cause of their condition. Before speaking of this, perhaps it will be well to enumerate some of the manifestations which give them the characteristic name of 'jumpers.' One or two instances will be sufficient. Recently, one of them, a French-Canadian of small stature, came out from an adjacent camp to the post-office. Just as he was about to ask the postmaster for his mail, he being a total stranger to the official, a man of sixty-five years of age, some one knowing the fellow to be a 'jumper,' mischievously cried out, 'Grab him by the throat!' The fellow sprung like a cat, and grasped the old man by the throat, and held on until removed, the irate postmaster pouring forth torrents of invectives on the poor fellow, who really was perfectly guiltless. Another unfortunate wood-chopper had just come into camp from two day's work, and was standing near the large camp-heater, in which was a very hot fire, when some one cried, 'Grab the furnace!' No sooner were the words said, than the poor fellow obeyed the order, and, as a result, left a scorched pattern of each hand on the nearly red-hot pipe, thus rendering him unfit for his work in the woods for some weeks. I could, were it not for taking up valuable space, enumerate instance after instance fully as peculiar as the above. In brief, it may be stated that at any time and under any circumstances, with the slightest provocation, and almost instantaneously on being spoken to, one of these fellows will obey any command, imitate any action, without regard to its nature, trivial or serious. He will leap on to a table, or over a stove, or into a river or pond; throw any article or weapon he may have in hand in any direction indicated; will repeat any sentence or exclamation. So serious a matter is this, that many of the lumbermen absolutely refuse to admit a man known as a 'jumper' into their camps. I find they are not wholly confined to French-Canadians, as occasionally a Canadian of Irish parentage will exhibit the same symptoms. As stated above, I have endeavored, when possible, to investigate as to the cause of this peculiar and distressing condition; and while I find, without doubt, that primarily, it is due to an inherited nervousness, the immediate cause is in taking such children, when small, and, while firmly held, tickling them until convulsive symptoms appear. This seems to be the story of such ones as I have made inquiries of. Whatever the cause, the condition is one much more easily acquired than lost, as it firmly clings to its victim far into adult life."

REPORTED MORTALITY FOR THE WEEK ENDING FEBRUARY 13, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Typhoid Fever.	Diphtheria and Croup.	Scarlet Fever.
New York	1,340,114	736	270	18.48	15.58	3.54	8.73	1.65
Philadelphia	927,995	—	—	—	—	—	—	—
Brooklyn	644,526	310	104	18.74	16.15	3.23	8.07	4.20
Chicago	632,100	—	—	—	—	—	—	—
Boston	390,406	182	57	11.00	19 80	—	4.40	2.20
St. Louis	408,520	128	43	7.81	14.04	3.12	3.90	—
Baltimore	400,000	—	—	—	—	—	—	—
Cincinnati	272,400	—	—	—	—	—	—	—
New Orleans	234,000	132	30	13.68	12.92	—	5 32	—
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	105	37	12.35	13.20	.95	4.75	.95
Pittsburgh	180,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	—	—	—	—	—	—	—
New Haven	62,882	—	—	—	—	—	—	—
Charleston	52,286	40	12	2.50	15.00	2.50	—	—
Nashville	54,400	27	10	3.70	22.20	—	—	—
Worcester	68,383	19	6	5.26	22.04	—	5.26	—
Lowell	64,051	26	9	16.25	15.40	3.85	7.70	—
Cambridge	59,660	11	5	36.36	—	9.09	18.18	9.09
Fall River	56,863	24	13	20 80	12.48	—	12.48	—
Lynn	45,861	7	4	12.84	14.28	14.28	14.28	—
Lawrence	38,825	—	—	—	—	—	—	—
Springfield	37,577	13	4	23.07	15.38	7.69	—	7.69
New Bedford	33,393	12	3	8.33	25.00	8.33	—	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	5	—	—	20.00	—	—	—
Holyoke	27,894	6	4	50.00	16.66	—	50.00	—
Chelsea	25,709	—	—	—	—	—	—	—
Taunton	23,674	—	—	—	—	—	—	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	3	2	—	—	—	—	—
Brockton	20,783	10	1	—	30.00	—	—	—
Newton	19,759	5	—	—	—	—	—	—
Malden	16,407	—	—	—	—	—	—	—
Fitchburg	15,375	11	4	9.09	9.09	9.09	—	—
Waltham	14,609	6	1	—	50.00	—	—	—
Newburyport	13,716	5	3	20 00	20.00	—	—	20.00
Northampton	12,896	6	1	33.33	33.33	16.66	—	16.66
82 Massachusetts Towns	—	36	6	13.90	25 12	5.56	5.56	2.78

Deaths reported 1,914: under five years of age 639; principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 286, consumption 305, lung diseases 312, diphtheria and croup 138, scarlet fever 37, diarrhœal diseases 24, whooping-cough 22, malarial fever 17, erysipelas 12, cerebro-spinal meningitis 10, measles five, puerperal fever three, small-pox two. From diarrhœal diseases, New York nine, Boston and New Orleans five each, Brooklyn four, District of Columbia one. From whooping-cough, New York 16, Brooklyn five, District of Columbia one. From malarial fever, New York seven, Brooklyn and New Orleans five each, Springfield and New Bedford one each. From erysipelas, Brooklyn four, New York three, Boston, two, Lynn, Chelsea and Taunton one each. From cerebro-spinal meningitis, New York three, Fall River two, New Orleans, District of Columbia, Nashville, Lowell and Springfield one each. From measles, Brooklyn, Boston, Baltimore, District of Columbia and Lowell one each. From puerperal fever, District of Columbia two, New York one. From small-pox, New York two.

In 109 cities and towns of Massachusetts, with a population of 1,250,326 (population of the State 1,941,465), the total death-rate for the week was 14.25 against 16.59 and 18.23 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending January 30th the death-rate was 22.1. Deaths reported 3,850: infants under one year of age 862; acute diseases of the respiratory organs (London) 478, whooping-cough 168, measles 75, diarrhœal diseases 31, scarlet fever 29, fever 28, diphtheria 23, small-pox (Liverpool five, Nottingham one) six.

The death-rates ranged from 14.4 in Hull to 33.0 in Preston; Birkenhead 21.9; Birmingham 21.4; Leeds 17.7; Leicester 15.3; Liverpool 24.6; London 22.2; Manchester 23.5; Nottingham 21.1; Sheffield 24.8; Sunderland 20.1.

In Edinburgh 16.6; Glasgow 26.6; Dublin 3.19.

For the week ending January 30th in the Swiss towns, there were 30 deaths from consumption, lung diseases 30, diarrhœal diseases 18, whooping-cough seven, diphtheria and croup five, small-pox four, typhoid fever two, puerperal fever two, erysipelas one.

The death-rates were: at Geneva 24.0; Zurich 13.4; Basle 14.8; Berne 31.0.

The meteorological record for week ending February 13, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps: —

Week ending Saturday, Feb. 13, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday,... 7	30.102	23.4	28.9	13.6	67.0	60.0	71.6	66.0	W.	W.	W.	7	1	8	O.	C.	O.	— —	— —
Monday,.. 8	29.920	33.7	42.2	23.3	68.0	51.0	71.0	63.3	W.	W.	W.	12	14	10	C.	C.	C.	— —	— —
Tuesday,.. 9	30.135	40.8	54.8	33.2	73.0	55.0	83.0	70.3	W.	W.	N.E.	12	3	7	C.	C.	C.	— —	— —
Wednes., .10	30.577	36.3	39.5	31.7	100.0	89.0	95.0	94.7	N.E.	N.E.	N.E.	8	14	16	T.	O.	R.	— —	— —
Thursday, 11	30.629	34.9	36.3	33.1	91.0	100.0	100.0	97.0	N.E.	N.E.	E.	20	25	19	O.	R.	R.	— —	—
Friday, ...12	30.077	40.8	45.2	34.5	100.0	100.0	100.0	100.0	N.E.	N.W.	W.	12	5	5	R.	R.	R.	— —	— —
Saturday, .13	29 538	50.7	57.3	43.7	100.0	92.0	84.0	92.0	S.	S.W.	W.	16	8	19	R.	O.	O.	50.5	5.62
Mean, the Week.	30.144	37.2	43.4	30.5				83.3											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

SOCIETY NOTICES.

SUFFOLK DISTRICT MEDICAL SOCIETY. SURGICAL SECTION. — There will be a meeting of the Section at 19 Boylston Place, on Wednesday evening, March 3d, at 8 o'clock. Communications: Dr. G. H. Monks, "Rupture of the Biceps, with Cases." Dr. J. E. Kelly, "An Apparatus for the Treatment of 'Colle's Fracture,' and one for Fracture of the Clavicle." Dr. E. O. Otis will exhibit Dr. F. N. Otis' Improved Evacuator.

S. J. MIXTER, M.D., *Secretary.*

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — A regular meeting of the Society will be held at the Medical Library, 19 Boylston Place, on Monday, March 1, 1886, at 8 P.M. Readers: Dr. J. W. Elliot, "A Case of Salpingitis, with Severe Symptoms: Removal of Tubes and Ovaries: Recovery." Dr. J. Orne Green, "Some of the Less Common Forms of Mastoid Disease."

H. L. BURRELL, *Secretary.*

BOOKS AND PAMPHLETS RECEIVED.

Transactions of the Medical and Chirurgical Faculty of the State of Maryland. Eighty-Seventh Annual Session held at Baltimore, Md., May, 1885.

Local Anæsthesia in General Medicine and Surgery. Being the Practical Application of the Author's Recent Discoveries. By J. Leonard Corning, M.D. New York: D. Appleton & Co. 1886.

The Diagnosis and Treatment of Diseases of the Ear. By Oren D. Pomeroy, M.D., etc. With one hundred illustrations. Second Edition revised with Additions. New York: D. Appleton & Co. 1886.

Prevention of Yellow Fever. Commercial Relations with Brazil as affected by Quarantine Regulations. Brazil and New Orleans.

The Sanitary Protection of New Orleans, Municipal and Maritime. By Joseph Holt, M.D., President of the Board of Health of the State of Louisiana. Read before the American Public Health Association, Washington, D.C., December 10, 1885. (Reprint from the Sanitarian, January, 1886.)

Editorial Reprints from the Journal of Inebriety. I. D. Crothers, Editor, Hartford, Conn., Hallucinations in Inebriety.

A Treatise on Bright's Disease of the Kidneys, its Pathology, Diagnosis and Treatment. With Chapters on the Anatomy of the Kidney, Albuminuria and the Urinary Secretion. By Henry B. Millard, M.D., A.M. Second Edition, Revised and Enlarged. New York: Wm. Wood & Co. 1886.

Medico-Chirurgical Transactions. Published by the Royal Medical and Chirurgical Society of London. Volume the 68th. London: Longmans, Green & Co. 1885.

Catalogue of the Pathological Museum of the Western Infirmary, Glasgow. Compiled by Joseph Coats, M.D., Glasgow. 1885.

Washington Obstetrical and Gynæcological Society. Third Annual Address of the President, Samuel C. Busey, M.D. The Hygiene of Pregnancy. (Reprinted from American Journal of Obstetrics, January, 1886.) New York: Wm. Wood & Co. 1886.

Constitution and By-Laws of the State Board of Health, and Vital Statistics of the Commonwealth of Pennsylvania. Harrisburg. 1885.

A Chart of Physical Signs of Diseases of the Heart and Respiratory Organs. Compiled from the Work of Various Authors with Original Ideas and Observations. By R. C. M. Page, M.D. New York. For sale by J. H. Vail and Co., New York.

Mind Your Eyes! Good Advice from a Near-Sighted Man to His Fellow Sufferers. Translated from the French of Francisque Sarcey, by Henry Dickson Burns, M.D. New Orleans. 1886.

Hydrocele of the Hernial Sac. By Thomas E. McArdle, A.M., M.D., Professor of Surgery, National University, and Louis Kolipinski, M.D., Resident Physician, Children's Hospital, Washington, D.C. From the Medical News, January 9, 1886.

Etudes Cliniques sur les Maladies des Femmes par le Dr. Henri Schafler, Ancien interne de l'Hôpital Rothschild. Paris. G. Steinheil, Editeur. 1885.

National Eclectic Medical Association. Announcement of the Sixteenth Annual Meeting to be held at Atlanta, Ga., June 16–18, 1886.

Personal Observations on the Value of Cocaine in Nose and Throat Surgery. By Frank Donaldson, M.D., Clinical Professor Throat and Chest Diseases, University of Maryland, Baltimore. (Reprinted from Transactions of the Medical and Chirurgical Faculty of Maryland, 1885.)

Eleventh Report of the Salem Hospital, Salem, Mass., 1886.

Original Articles.

ADENOID VEGETATIONS IN THE NASO-PHARYNGEAL CAVITY.[1]

BY FRANKLIN H. HOOPER, M.D., BOSTON.

AMONG the many benefits to be ascribed to the introduction of the rhinoscopic mirror as an instrument of diagnosis, the discovery of the disease which forms the subject of this paper deserves the first place. Although a recently recognized affection, it has been thoroughly described in all its details, notably by Meyer (Copenhagen), Loewenberg (Paris), and B. Fraenkel (Berlin), besides receiving exhaustive treatment in standard text-books on diseases of the throat and nose, especially in those by Cohen and Morell Mackenzie. Little or no mention, however, is made of it in works on general medicine and surgery, yet it is a disease of general interest, leading oftentimes to grave constitutional disturbances, the true origin of which may for a long time escape detection. Being a disease essentially of early life, it is encountered for the first time oftener by the family practitioner than by the specialist, and the fact that it has this general bearing is my excuse this evening for "threshing straw already thrice beaten by the flails of other laborers in the same field."

The seat of the exuberant overgrowth of glandular tissue to which Wilhelm Meyer, in 1868 gave the name of *adenoid vegetations*, is the naso-pharyngeal cavity — a cavity not always looked into in the dissecting-room or on the autopsy table, and one of the last of the body to have light thrown upon the pathology of the diseases peculiar to it.

Situated behind and above the soft palate, the naso-pharyngeal cavity extends from the posterior openings of the nasal chambers to the free border of the palatal curtain. Its shape is constantly changing during life, owing to the movements of the soft palate. A cast of it taken after death, however, like the one I have here in fusible metal from Dr. Mixter's collection, shows that it is an irregular cube, but, on account of certain anatomical structures found in its different regions, it is convenient to describe it as dome-shaped, consisting of a vault or roof, with lateral and posterior walls.

In the vault we find the "third tonsil," an accumulation of adenoid tissue almost identical in structure with the faucial tonsils, and called more frequently the pharyngeal or Luschka's tonsil. On the lateral wall the same adenoid tissue is found around the Eustachian orifices, especially on the Eustachian prominence and in the fossa of Rosenmüller — the recessus pharyngeus — immediately behind it. This lymphatic tissue is distinctly traceable downward along the posterior edge of the soft palate, around the posterior pillars of the fauces to the faucial tonsil, then directly across the base of the tongue and back in a similar manner to the vault, so that the cavity is encircled by glandular tissue — Waldeyer's lymphatic ring of the pharynx — certain portions of which, as the roof, the Eustachian prominence, and the fossa of Rosenmüller being much more richly supplied with follicles than others.

In Dr. Whitney's abstract[2] of Bickel's paper "On the Extent and Connection of the Lymphatic Tissue in the Pharynx," it is stated that only the tonsils of the pharynx deserve the name in addition to those of the fauces, while the follicular glands of the other regions are transitional forms from a simple infiltration of adenoid tissue. But these follicles when hypertrophied, as in pronounced cases of adenoid vegetations, may be found in any part of the naso-pharyngeal cavity, their structure as revealed by the microscope differing very little except in the abundance of the connective tissue between the follicles, and in the character of their epithelial covering. These differences also distinguish them chiefly from the faucial tonsils.

The specimens under the microscopes show these features very distinctly. The sections of the faucial tonsil closely resemble the appearances described and pictured by Stöhr.[3] Its covering of flat epithelium will be seen to be permeated by leucocytes, which, according to Stöhr, are constantly wandering out from the centre of the tonsil through the cement between the epithelial cells, and appearing in the cavity of the mouth as mucous and salivary corpuscles. The epithelial covering of the pharyngeal tonsil will be seen to be of the ciliated variety; otherwise all the specimens are identical in consisting of the adenoid tissue of His plentifully supplied with blood vessels. The difference in the consistence of this glandular tissue in the different regions depends upon the amount of connective tissue it contains.

The presence of this adenoid tissue in the naso-pharynx is subject to the same variation as it is lower down in the pharynx. The vault is often seen to be as smooth as is here represented in this diagram, or, we may meet with the pharyngeal tonsil as large or even larger than is shown in this longitudinal section of a child's head, kindly lent me by Dr. Dwight. The follicles in any part of the lymphatic ring or on the posterior pharyngeal wall may become hypertrophied; even those at the base of the tongue have been of such size as to depress the epiglottis, and interfere with the movements of the larynx. Adenoid vegetations, then, are abnormal developments of normally existing elements.

The growths vary in shape, size, consistence, and color. They may be pendent and hang down into the cavity, as Voltolini expressed it, like stalactites, or they may be cylindrical, with a broad attachment. When limited to the vault, the pharyngeal tonsils may assume many shapes, from being single, with a smooth covering, to being bi-lobed, rough, or made up of many layers of tissue, separated by deep fissures. The color depends upon their vascularity, and varies from a pale to a deep red. There is often seen a small increase of the adenoid tissue at the vault of the pharynx which probably gives rise to no injurious effects, but my present remarks refer to those cases in which the vegetations are sufficiently abundant to fill the naso-pharyngeal cavity, thereby "causing the voice to be dull and nasal in tone, the respiration to be buccal, frequently inducing deafness by setting up inflammation of the middle ear, and in the case of children often giving rise to the constitutional phenomena which follow prolonged nasal obstruction." (Mackenzie).

We owe our knowledge of this disease to European writers. First discovered on the continent of Europe, it is there that it is most frequently seen, certainly much oftener than in this country. Czermak, to

[1] Read before the Boston Society for Medical Improvement, February 22, 1886.

[2] Boston Medical and Surgical Journal, November 27, 1884.

[3] Virchow's Archiv., Bd. 97.

whom we are indebted for the rhinoscope, was the first to see these vegetations in the living subject. This was in 1860. Türck, Loewenberg, Voltolini, and Semeleder soon followed with reports of other cases. Sir Andrew Clark wrote briefly upon this affection under the name of Naso-Palatine Gland Disease in the first volume of the London Hospital Reports, published in 1864, but it was not until 1868 that a complete description of adenoid vegetations was given by Meyer, of Copenhagen.

Lymphoid tissue in the naso-pharynx, as in other parts of the body, tends to disappear after puberty, and the majority of patients having adenoid growths are under fifteen years of age. The youngest case I have seen reported was one by Woakes of an infant aged nine months, and the oldest, a man aged fifty-three, mentioned by Loewenberg. My own cases have ranged between the ages of four and twenty. Sex is without influence, as well as social position, the rich and the poor suffering alike. Heredity and family disposition play an important part, as many instances have been recorded where one of the parents and several of the children have been afflicted. Loewenberg believes that the lymphatic temperament predisposes to it, while others hold that it is entirely independent of any lymphatic or scrofulous diathesis. We certainly find adenoid vegetations in children who are otherwise perfectly healthy and without any of the manifestations of scrofula.

The affection is congenital, although it rarely leads to any marked disturbance before the age of four, and is probably, as B. Fraenkel suggests, special of its kind. A cold, damp climate is said to be favorable to the growth and development of this follicular tissue, as well as chronic catarrhal inflammation of the naso-pharyngeal mucous membrane. These conditions are certainly found in abundance on our own coast, where the climate does not seem to have undergone much change since the author of "Elsie Venner" wrote that "it gives people their choice of dysentery or fever every autumn, with a season ticket for consumption good all the year round," and with regard to catarrhal affections of the naso-pharynx, a specialist of such wide experience as Morell Mackenzie was so impressed while on a visit to this country, by certain subjective noises which he heard during his travels, and which unmistakably pointed to some irritation of the naso-pharyngeal region, that immediately on his return to London, he delivered a lecture on our national affection — post-nasal catarrh. Notwithstanding these supposed favorable conditions, I am led to judge from my own experience and from conversation with others that adenoid vegetations are by no means so common in this country as in Northern Europe.

Several years ago, Meyer, of Copenhagen, had private records of about two hundred cases, and in examining the school-children of his own city and of Stockholm, he found the growths present in one per cent. In Leyden, Professor Doyer states that five per cent. of the children have characteristic faces and pronunciation. Lange, of Copenhagen, has had about four hundred cases requiring operation. Schmiegelow, of the same city, finds that in his clinic, of all patients with diseases of the pharynx, 37.9 per cent. have adenoid vegetations. Hopmann, of Cologne, has operated on two hundred and thirty-four cases. Trautmann, of Berlin, reports one hundred and fifty. Out of the last wo thousand patients that have come under my own observation in the throat clinics at the Boston City and Massachusetts General Hospitals, and in private practice, twenty-eight have had these growths.

Gleitsmann, of New York, in his report of the Throat Department of the German Dispensary for 1885, notes eighteen cases in a total of 2,042 patients, or about one in every one hundred and thirteen. Tauber, of Cincinnati, has found the vegetations in six tenths per cent. of his cases. Beverley Robinson, of New York, speaks of the rarity of this affection. Swinburne, on the other hand, met with adenoid growths in one out of every ten of his patients, at the Harlem Eye, Ear and Throat Infirmary. The difference in these observations arises, as Robinson explains, from our not all having the same idea of what should be called an *abnormal* growth of adenoid tissue. My own figures refer solely to those cases in which the pharyngeal tonsil was sufficiently large, or the vegetations sufficiently abundant to destroy the functions of the naso-pharygeal cavity, and where their removal was imperative. The symptoms vary in intensity, according to the size and situation of the growths. Loewenberg estimates that deafness is present in three-fourths of all cases. Oftentimes, it is the defect in the child's hearing that first alarms the parents, and leads them to seek advice.

Impairment of the hearing may be produced in many different ways. The vegetations may be so situated that they hang down over the Eustachian orifice, thus mechanically preventing the proper ventilation of the middle ear; or the inflammation of the surrounding tissues, which is always present, may extend into the Eustachian tube, causing swelling of its walls and its partial or complete closure. Again, catarrhal or suppurative processes may be excited in the tympanic cavity itself, accompanied by all the sequences of chronic otorrhœa. Middle-ear disease, furthermore, may be produced in a manner to which our attention has been directed by Mackenzie, of Baltimore, namely, through the reflex agency of the vaso-motor and trophic nerves, the circulation and nutrition of the aural chambers being affected reflexly from the inflammation in the posterior portions of the nose.

Finally, these growths may cause paresis of the palato-tubal muscles, and, therefore, be one factor in the production of the so-called "paretic deafness." The deafness in these cases, is always worse with each succeeding attack of coryza. Meyer mentions two symptoms frequently accompanying the use of the ear catheter, which he considers almost pathognomonic, namely:

"(1) The stream of air, after having passed freely into the tympanic cavity — as found by auscultation — will suddenly stop, and after a little while, flow on without any obvious reason, as freely as before.

"(2) A gurgling or bubbling sound of thick mucus behind the nasal cavity is heard during insufflation, and sometimes, bubbles of the same viscid mucus will appear at the nostril through which the catheter has been introduced."

He also lays down the general rule that a deaf patient who breathes through the mouth and has a thin, compressed nose, is affected with adenoid vegetations in the naso-pharyngeal cavity.

The prognosis of this form of deafness is very favorable, when the vegetations are discovered and removed in good season; consequently, a careful exploration of the naso-pharynx in such cases, should never be omitted. Mouth-breathing — one of the worst of bad

habits — is constant in this affection, and unavoidable. A glance at this frozen section of a child's buccal cavity (also from Dr. Dwight's collection), will show how completely it is filled by the tongue and soft parts, making of it, when the lips are closed, a practical vacuum; yet in the infant, the tongue is larger in proportion to the cavity of the mouth, than in the adult, and we have Kussmaul's authority for the statement that even though a suckling may be sleeping with its mouth open, it is breathing, nevertheless, exclusively through the nose. New-born animals on whom the experiment has been tried, soon die from asphyxiation if their nostrils be plugged with cotton-wool, and we may say that the younger the mammal, the more important it is that the nasal passages should be free, since the nursling cannot otherwise properly procure its nourishment, for in infancy, we know, the mouth is little else than a suction-pump, the tongue being the piston, and that the successful working of the apparatus depends upon an unobstructed passage of air to the lungs through the nose.

But the effects of nasal obstruction are direful enough when they are due alone to the derangement of the air-supply. The facial expression of the mouth-breather is one of stupidity. The buccal cavity, as we have seen, being practically a vacuum, the lower jaw is held against the upper, not by any conscious muscular effort, but by atmospheric pressure. When, however, the nose is impervious to the passage of air, or partially so, the lower jaw falls from its own weight. The face being constantly acted on by gravity, becomes elongated, the lines at the angles of the mouth and nose, and in aggravated cases, at the corners of the eyes, being especially deepened and stretched. These furrows reflect the light in such a manner as to make the face look dull,[4] which, added to the open mouth, sunken cheeks, and pinched nose, convey an impression in pronounced instances, almost of idiocy. Yet this facial expression, sometimes mistaken as indicating mental deficiency, is produced in as purely a mechanical manner as in the circus clowns, on whose face paint is daubed in exactly the same regions, in order to give to his countenance a look of vacancy and imbecility.

One author has attributed the fact of his having more females than males among his patients with adenoid vegetations, to this external effect of mouth-breathing upon the personal appearance. But the remote effects of this destructive habit are more to be dreaded, and more important to avoid. Air which enters the lungs of the mouth-breather is not only less in quantity than if it passed through its natural channels, the nasal-chambers, but its quality is altered and vitiated, being charged with impurities which would have been arrested and ejected by the cilia lining the nasal passages, being colder than if it had been warmed by the extensive blood-supply of the tissues covering the turbinated bones and other portions of the nasal cavities, and being dryer than if it had taken up moisture, as it should, from the mucous glands in the respiratory tract in the nose. The mouth-breather, accordingly, is undergoing a sure, but fortunately, a slow process of asphyxiation. He is not getting a sufficient quantity of air to expand the lungs and oxygenate the blood, and what he does get is impure. Deformities of the chest-walls, malnutrition, deafness, loss of appetite and sleep, may supervene before the obstructive cause in the nose is discovered, which, when removed, enables the individual, for the first time in his life, to experience what it means "to take a full breath."

Major,[5] of Montreal, has noticed the damage done to the teeth by mouth-breathing, and considers it the "result of dryness, caused by the passage of air between and around them, facilitating the decomposition of any food present, and favoring the formation of acids capable of reacting vigorously." He speaks of the changes as confined to the upper incisiors, the lower teeth escaping injury, as they are protected by the lips and tongue, and moistened by the saliva. In one of my own cases, a lad, aged fifteen, who had been a confirmed mouth-breather for eight years, the teeth in both jaws presented a peculiarly notched and carious appearance. They were very brittle, and more than one had broken off while he was eating.

The teeth of the first dentition were healthy. As the permanent set came through the gums in their present wretched condition, and as there was no evidence of any syphilitic taint, the deficient calcification was probably due to the general low tone of the boy's system, brought about by buccal respiration. Adenoid vegetations have a marked effect upon the speech and tone of the voice, because their presence destroys the virtue of the naso-pharyngeal cavity as a resonator. The voice, instead of being clear, is muffled and stuffy, readily explained by the sound-waves impinging on these soft, irregularly-shaped, glandular masses, instead of on the normal, smooth walls of this dome-shaped resonating chamber. Certain words are enunciated with difficulty and imperfectly, and the nasal consonants, "m" and "n," and "ng," cannot be pronounced at all. The word common is pronounced "cobbod;" nose as "doze" or "loze;" and song, "sogg," etc.

Snoring always accompanies this form of nasal obstruction, and is so loud as to disturb not only the sleep of the child, but even that of persons in neighboring rooms.

Children, then, in whom the glandular tissue in the naso-pharnyx is in excess, are exposed to a long train of sad sequelæ, and I think the following statements, which I translate from B. Fraenkel's paper on this subject, will not be considered exaggerated by any one who has had experience with this affection in the young. He says:

"I have already pointed out that their facial expression is one of stupidity, that in consequence of loss of sleep, they present a tired and sad appearance; also, that their speech is affected. Adding now, to these, deafness, the children sometimes convey the impression of being idiots, and, indeed, this is not merely an impression, but it is a fact that their intelligence may become weakened, and their characters changed. They do not progress in their studies at school, are generally at the bottom of the class, and remain in it longer than the prescribed time. . . . That the impairment of intellect and want of energy manifested by these children is real, and not merely in the expression of the countenance, is made evident by watching these same children after the growths have been removed. To the gratification and astonishment of the parents and teachers, the children hitherto sluggish and dull of comprehension, now make rapid progress, and their comrades soon cease to make a laughing-stock of them. It seems, in fact, as if, through the removal of the ob-

[4] Warner's "Physical Expression," International Scientific Series, Vol. 12, 1886.

[5] New York Medical Record, November 22d, 1884.

structing vegetations in the naso-pharynx, they had become different beings."

Again, speaking of the nervous symptoms sometimes associated with this disease, such as abnormal sensations in the head, a feeling of weight and pressure in the upper and back part of the cranial cavity, melancholia, headache, etc., Professor Fraenkel continues: "The children come from school complaining of pain in the head, with a desire to lie down, and occasionally vomit, yet on the next day, they have sufficiently recovered to go again to school. Slight fever sometimes accompanies these attacks. In many cases, the parents and physician content themselves with the diagnosis of 'migraine,' in explanation of these oft-recurring attacks. The children pass their holidays in the country or at some health resort, where they are comparatively free from such attacks, yet they return home, bringing their old trouble with them. Then it is said, 'the child cannot bear the air of the school-room.' Finally, the adenoid vegetations are detected and removed, and the child is restored to perfect health."

However strongly we may suspect the presence of these growths, the diagnosis cannot be established with absolute certainty without exploring the naso-pharyngeal cavity. This may be accomplished either by posterior rhinoscopy, or by means of the index finger, introduced behind the soft palate. Unless there is some anatomical obstacle to the use of the rhinoscopic mirror, I believe it is the exception, even in young children, that we cannot, with a small expenditure of time and patience, succeed in employing this method. The posterior nares can then be examined leisurely on the part of the operator, and with no discomfort to the patient. In my judgment, it is much more satisfactory in the end, to train the patient to bear a rhinoscopic examination, than to rely upon the finger for information regarding the condition of this cavity. The latter procedure is not merely disagreeable for the patient, but the operator, with the aid of a post-nasal probe, can acquire a more vivid and accurate picture of the number, size, shape, and situation of these vegetations through the sense of sight, than by the sense of touch. Digital exploration I never resort to, unless it is impossible to use the mirror. In such cases, the sensation communicated to the finger by these glandular masses is very characteristic; they feel, as Meyer describes it, like a bunch of earth-worms.

The treatment of the growths, when sufficiently large and numerous to obstruct nasal respiration, consists in their removal. To effect this, many methods have been recommended, some requiring the use of the rhinoscope, and others not; and many different instruments are successfully employed by different operators, such as the curette, the ring-knife, the sharp spoon, the cautery or cold snare, the finger-nail, or a scraper carried on the end of the finger, and the post-nasal cutting forceps. It makes, of course, but little eventual difference to the patient, provided he is relieved of the growths, whether they have been scraped off, pulled off, snared off, or cut off; or whether the surgeon operates with or without the rhinoscopic mirror.

But as the advance that has been made in our knowledge of the diseases of the various cavities of the body, is directly attributable to the fact that certain instruments, have, from time to time, been added to our armamentarium, which permit us to illuminate these cavities, it seems to me, that in performing operations in them, we should avail ourselves of such instruments, when possible, in order to be able to see exactly what we are about. There is, however, a great difference in the size, and some variation in the shape of different naso-pharyngeal cavities, to say nothing of the excessive nervous irritability of some patients, or of the intractability of others. The difference in the consistence of the growths, their size, mode of attachment and situation, must also be taken into account. No one operative procedure, therefore, if we regard the patient's or surgeon's comfort, is applicable to all cases.

After having tried most of the methods recommended, the following has yielded the best results in my own hands, and can be employed in the majority of instances. The patient is easily taught to hold the tongue well depressed in the floor of the mouth, by means of one of the ordinary spatulas — preferably, Türck's. The operator now has both hands free, one for the rhinoscopic mirror, and the other for the post-nasal cutting forceps, either Cohen's or Loewenberg's. It is necessary to have these forceps of different sizes and curves, to suit individual cases. A strong light being reflected into the cavity, the instrument, guided by the image in the mirror, grasps the vegetation, and if it be soft or pendulous, it is torn off, care being taken not to use force; or if it be hard, and of the flat variety, it is cut off. Occasionally, too large a quantity of the mass becomes engaged between the blades of the forceps, and, not coming away with easy traction, the blades should be released and re-applied to a smaller portion of it.

In conjunction with this method, one of the forms of nasal snares, or écraseurs, armed with No. 5 piano-wire, is very useful to remove growths which are too tough to be brought away with the forceps. The snare being introduced anteriorly through the previously cocainized nostril, the loop can be watched in the rhinoscopic mirror, and directed to the desired vegetation or pharyngeal tonsil. When the naso-pharyngeal cavity is very long, and the remaining portions of the growths are high up and on the sides, the snare used as described is a convenient way to get rid of them. If one operates in this manner, every movement of the forceps or the snare can be watched, and a few pieces can be removed at each sitting until the cavity is completely freed of the growths. The patient's visits are renewed sometimes daily, or at intervals of two or three days, without apprehension or dread of the operation, as the pain is usually slight if healthy parts are not nipped, as they ought not to be if the rhinoscope is used. The hæmorrhage, more or less, according to the individual, has always been insignificant in my own cases. Once thoroughly eradicated, I have never seen a recurrence of the growths. But we may meet with these adenoid vegetations in children whose naso-pharyngeal cavities are too small to admit of the procedures just mentioned, or who obstinately refuse all co-operation.

When they are very refractory or nervous, it is advisable to administer ether, and, with the post-nasal forceps, remove the entire mass at one sitting. The specimens I show you give an idea of the quantity contained in the naso-pharyngeal cavities of four children from six to eight years of age, who were recently relieved of their exuberant tissue in this manner. Rhinoscopy being out of the question in these cases, the practised hand can feel when the end of the forceps is embedded in the tissue. It is well to hold the soft palate for-

ward by means of a palate-hook, or, if space permits, the forceps may be guided by the index finger of the opposite hand. The hæmorrhage may be considerable, but ceases immediately. Other children, ranging from the ages of four to fifteen, I have found most tractable, and when old enough to comprehend the nature of their trouble and the object of the operation, only too willing to lend their aid.

For the after-treatment of the seat of the vegetations, a mild astringent and detergent wash is all that is required, while the treatment of the complications in the nose or other parts, must be conducted on general principles. There is an unfortunate belief prevailing among the laity, that that bugbear "catarrh" is some incurable disease, and one we must submit to with resignation. Little cognizance is taken of the different varieties of nasal affections, or of the advance that has been made in recent years in the surgical treatment of the catarrhal diseases of this important organ. In typical cases of adenoid vegetations, the symptoms of "catarrh" of the most aggravated form may be present, yet the good effects of treatment are noticeable, even before it is completed; and I think it may be safely said that there is no other disease in the domain of him who confines himself to the upper respiratory tract, the treatment of which is attended with more satisfaction to the operator, or with more permanent relief to the patient.

SEVERE HÆMORRHAGE FROM ANTE-PARTUM SEPARATION OF THE PLACENTA, WITH THE INFUSION OF SIXTY-SIX OUNCES OF SALT SOLUTION.

BY F. B. HARRINGTON, M.D.

MRS. H. is twenty-three years of age. She first came under treatment in January, 1885, suffering with a slight endometritis. She became pregnant for the first time in June. There were no unusual signs during pregnancy until February 6th, about a month before the expected time of delivery. At five P. M., on that date, after lifting some small article, she felt a severe pain in the back. This continued for over a half hour, when there was a sudden rush of blood, wetting the clothing. The flow continued until nearly a pint of blood was collected in a basin. She became faint and was put to bed. When first seen at 6.30 P. M., a large surface of blood was found upon the bed and the night-dress was soaked up to the waist. The pulse was 78 and of good strength. The pains were strong and nearly constant. The uterus was low down in the pelvis, the cervix was hard and unchanged by the pains and the os was wholly undilated. After much effort the tip of the finger was inserted into the os. For an hour and a half the finger was thus held, and, although little progress toward dilatation was made, the escape of any large quantity of blood from the uterus was prevented.

It was impossible at this time to push a single finger into the internal os. There was no perceptible change in the condition of the cervix. No fœtal movements were felt and the unceasing pains prevented the hearing of the fœtal heart. This condition of the patient continued until 9.45 P.M., when there was a sudden profuse hæmorrhage which weakened her at once. She became blanched and the pulse quickly rose to 120. Immediate emptying of the uterus became absolutely necessary. The finger was again pushed into the os, and the escape of blood from the uterus was prevented.

Dr. Strong, who was sent for, arrived soon after 10 P.M. The patient was etherized at once. The dilatation of the cervix was most difficult. It resembled the virgin cervix rather than that of a woman pregnant for eight months. During the efforts at dilatation the loss of blood was excessive. The sheets having become soaked in blood, three pints by measure were caught in basins. At length a single finger could be made to reach the internal os. A head was felt fixed against this. The pains were incessant. The uterus seemed tonicly contracted, and because of this, and for fear of delay in turning, the membranes were not ruptured. Slowly a second and third finger were introduced by the use of the utmost force. When it became possible to sweep the finger about the lower segment of the uterus, a perfectly smooth wall was met on all sides, showing that the placenta was high up. The rush of blood continued and stood in pools on the carpet. The patient was greatly collapsed; she was colorless, covered with cold sweat and breathing rapidly. All the force that could be used was brought to bear upon the cervix, and just as an incision was about to be made the tissues yielded, and a large rent allowed the hand to be pushed into the uterus. The membranes were ruptured. There was a small rush of waters. The feet were easily found and the child was quickly turned and delivered, but was dead. When the feet were drawn into sight, the placenta appeared preceding the body of the child. The uterus contracted quickly and well. A subcutaneous injection of whiskey and one of ergot were given at once. Hot water with vinegar was injected into the uterus. A steady flow of blood continued although the body of the uterus was well contracted. A Sims' speculum was inserted but no bleeding point could be found in the torn cervix.

A swab covered with powdered persulphate of iron was inserted several times into the cavity of the uterus, and applied to the cervix. This controlled the hæmorrhage.

The condition of the patient was extremely alarming. Only the flutter of a pulse could be felt in the wrist. The patient was inverted and the legs were bandaged from toes to hips. Subcutaneous injections of ether and whiskey were repeatedly given, but the patient, perfectly blanched and almost pulseless, began to gasp and to toss for breath. It was now forty-five minutes since the birth of the child and the patient was sinking. It was decided to try infusion. The right median cephalic vein was exposed and raised upon a director and a ligature was passed beneath it. A funnel and a connecting rubber tube and needle were filled with a solution of salt and water. The needle was tied into the vein. Thirty-six ounces of the salt solution were poured into the vein in about twenty-five minutes. The first few ounces brought the pulse back to the wrist, and the tossing and gasping ceased. Within twenty minutes a slight flush could be seen in the cheeks and the lips took on a little color. The pulse fell to 120 and was of fair strength. The patient was perfectly conscious and took stimulants by the mouth.

There was still no loss of blood and the uterus remained hard and small. The color in the cheeks did

[1] Read, by invitation, before the Obstetrical Society of Boston, February 13, 1886.

not remain long, but the patient was quiet and seemed to be resting easily. It was now an hour and a half since the birth of the child and the uterus had remained well contracted. All seemed to be going well, when suddenly the uterus was found to be enlarging. At the same time blood appeared trickling from the vagina. The uterus did not become larger than a cocoa-nut, but the hæmorrhage was profuse. Fresh pledgets of cotton with persulphate were crowded into the cervix. The vagina was very tightly packed. This was not done however until the uterus had returned to its small size below the symphisis pubis.

It perfectly controlled the hæmorrhage. The sighing and alarm of the patient had returned. She was tossing from side to side. Enemas and subcutaneous injections were given. The heaters were renewed and placed about the patient. The pulse at the wrist was rapid in the extreme, and at times could not be felt. For three-quarters of an hour every effort was made to improve the patient's condition, but she grew steadily weaker. The skin was cold and clammy. The pupils were widely dilated. The patient's mind wandered. Death was imminent. As a last resort it was decided to attempt a second infusion. The left median cephalic vein was this time opened. Thirty ounces of the salt solution were added to the circulation in forty minutes. Slowly the pulse appeared at the wrist. It then became constant, though rapid and feeble. The patient soon became quiet but was utterly exhausted. The pulse ranged between 150 and 160 and could only be accurately counted at the chest. Six hours later the pulse had fallen to 148, and was somewhat stronger In twelve hours it dropped to 140. Here it remained, for thirty-six hours, when it fell to 130. On the three following days it ranged between 120 and 130.

February 12. Nearly a week has elapsed, and the patient is doing well. The prognosis is favorable.

February 13. The patient had a chill and the temperature rose to 105°. She was seen by Dr. W. L. Richardson in consultation. He gave a favorable prognosis.

REMARKS.

The cause of the first hæmorrhage was an ante-partum separation of the placenta, brought about perhaps by lifting or by old endometritis or by a combination of the two causes.

The cause of the second hæmorrhage was a relaxation of the uterus occurring an hour and a half after the birth of the child.

The labor may be divided as follows:

February 6th.	5. P.M.	First pains.
	5.30 "	A flow of blood.
	9.45 "	A second large loss of blood.
	10.10 "	Ether.
	11.00 "	Child born.
	11.45 "	First infusion begun.
February 7th.	12.10 A.M.	First infusion finished.
	12.45 "	Post-partum hæmorrhage.
	1.30 "	Second infusion begun.
	2.10 "	Second infusion finished.

Since the labor the stomach has acted well. There has been excessive thirst but no appetite. She has been given liquid foods and stimulants in small quantities at short intervals.

No urine was drawn for eighteen hours after the birth of the child. Then two ounces were removed by the catheter. The amount secreted soon increased.

An analysis of the urine by Dr. Charles Harrington gave the following result, February 8.

Color=sl. pale.	Sp. Gr.=1,016.5.
React.=acid.	Amount of Sediment=slt.
Uropheïn=N.	Chlorides=M—.
Indican=M+.	Sulphates=N.
Urea=Normal.	E. Phosphates=M—.
Albumen=trace.	Alk. Phosph=+.

Sediment=Free blood and a few hyaline casts.
Amount of NA. CL.=0.04 per cent. or 0.400 gm. per litre.

Instead of an increase of the chloride of sodium, we find it almost absent, the normal amount being from seven to eleven grms. per litre.

Four days later the amount of salt in the urine had more than doubled. The packing was removed from the vagina without much difficulty on February 9th. No hæmorrhage followed. The respiration has remained at a low rate, ranging from ten to twelve for four days.

The stitches were removed from the arms on the fifth day. There had been union by first intention in both.

A specimen of the patient's blood examined in regard to its richness in red corpuscles showed that there had been a diminution from 4,500,000 to 1,838,000 per c. m. m. On the 12th there was a farther decrease to 1,824,000, and on the 13th to 1,658,000. This apparent decrease may have been due to the absorption of water by the blood, at a more rapid rate than new corpuscles could be formed. The number of white corpuscles was largely increased.

The breasts have remained perfectly soft and no milk could be pressed from them.

The subject of the infusion of salt solution was first brought to the notice of the writer, by a paper "On the Value of Transfusion of Blood and Infusion of Salt Solution in Acute Anæmia," which was read by Dr. O. K. Newell on April 1st, 1885, before the Surgical Section of the Suffolk District Society, and which unfortunately has never been published. The paper was a translation of an article by Professor Mikulicz (Ueber die Bedeutung der Bluttransfusion und Kochsalzinfusion bei akuter Anämie. Weiner Klinik, Juli 1884.

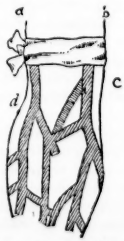
Mikulicz advises a solution made as follows:

Sod. Chloride	6 0=3 iss
Sod. Bicarb	1 0=grs. xv
Aq. Distillat	1000 0=oii+

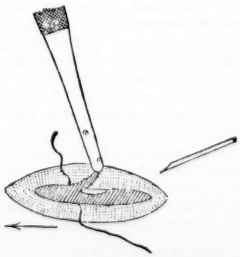
This should be raised to about 100° Fah.

From a pint to three pints can be used. The utmost care should be used that no air shall enter the circulation.

The median cephalic vein can be most conveniently used. The vein should be dissected out and the needle tied into it.



Cut I. Superficial Veins at Bend of Elbow: *a*, outside; *b*, inside: *c*, basilic vein; *d*, cephalic vein.



Cut II. Method of inserting needle.

Cut III. The needle in position. The arrow indicates the direction of the current.

The amount of pressure can be regulated by raising or depressing the reservoir. The solution enters the current quickly at an elevation of three feet.

The apparatus used on this occasion was such as could be hastily adapted from the ordinary office instruments: a large needle from an aspirating set, with a piece of drainage tube and a small glass funnel.

As to the benefit of the salt infusion in this case there cannot be a shadow of doubt. The relief given was as apparent as from tracheotomy in diphtheria.

The salt infusion was not tried until all other means had failed. Should the patient die it has given a week of life and hope.

February 28th. The patient is doing well. The prognosis is favorable.

There was progressive anæmia until Feb. 18th when the red corpuscles had diminished to 1,180,000. After this time they began to increase, and on Feb. 28th reached 2,040,000 per c. m. m.

REPORT ON RECENT PROGRESS IN THORACIC DISEASE.

BY F. C. SHATTUCK, M.D.

CONSEQUENCES OF NARROWING OF THE MITRAL VALVE WHEN OCCURRING IN CHILDHOOD.

The following is a portion of a short article by Dr. Wilks.[1]

"In various ways the effects of heart disease are different as occurring in the growing child and adult. After a marked endocarditis in the child, resulting in thickening and narrowing of the mitral valve, there may be observed great enlargement of the left auricle, with hypertrophy of the right side, becoming sometimes so great as to cause bulging of the chest. In these cases the pulmonary artery partakes of the hypertrophy of the ventricle, and is often found thicker than the aorta. Many years ago, when demonstrating this condition, I used to teach that in all probability the second sound of the heart was produced more by the pulmonary than by the aortic sigmoid valves, and this was before I became aware of the clinical fact pointed out by Skoda that the second sound was more accentuated over the pulmonary orifice in mitral disease. But in cases where there has been no history of endocarditis, although it might probably at one time have been present, where the valves have become contracted without much thickening, and therefore retained their efficiency, these secondary effects do not and need not occur. It is evident that the whole of the blood of the body coming back to the lungs and then passing again to the left side, is measured by the size of the mitral orifice. If this be small, the blood passing through it is diminished in quantity and it becomes a guage of the reduced circulation. The left ventricle is therefore small, and the whole heart correspondingly diminished in size. The lungs are small as well as the chest, and the respiratory process correspondingly lowered, and with this, probably the whole body is impoverished; at all events, the organism is working with a diminished amount of blood. I admit that these simple cases of narrowing are exceptional, for most frequently with the contraction there is some thickening which in course of years manifests itself by symptoms denoting an imperfection of the valve.

"It is, however, the exceptional cases to which I wish to draw attention, those in which the mitral orifice, when narrowed, acts first by producing a diminished stream of blood, the amount in the system being measured by the small mitral orifice, and then, as before said, by a shrinking of the other parts of the circulatory system. During the present year I have seen two such cases on the *post-mortem* table. One was that of a woman of middle age who had died of some long-standing disease of the brain. In her body was found a very small mitral aperture, admitting only the point of the finger, but having its edges pliable and in every way efficient as a valve. The ventricle was very small and the whole heart was diminished in size, proving that no obstruction or regurgitation had occurred in the mitral orifice. The lungs were not indurated, nor did they show in any way the congestive conditions so well known in heart disease when the blood has been impeded in its course, nor did the other organs display any indication whatever of analogous congestive processes. A very intelligent student expressed his surprise at the absence of the well recognized conditions usually met with in obstructive mitral and other valvular diseases, and that there was not the slightest appearance in the body suggestive of stenosis of the valves of the heart. My answer to him was that there was no disease; the mitral orifice was smaller than natural, but an effective valve. The contraction had no doubt occurred at an early period of life, and so reduced the amount of blood, of which it was the guage; that the whole heart became in consequence reduced in size, and an entirely new state of things set up. This condition is very different from what occurs when a person is full grown and becomes the subject of a stenosed mitral valve, but even then the prolongation of life is due probably in some measure to the reduced amount of blood in the system."

DROPSY IN MITRAL STENOSIS.[2]

Dr. Broadbent in the course of an admirable article on mitral stenosis remarks on and explains the relative infrequency of dropsy in the above condition. He says: "Another fact which has been impressed upon me, in the course of my observation of the various forms of heart disease, is the late stage at which general dropsy supervenes in uncomplicated mitral stenosis. Not unfrequently the subjects of it are free from œdema at the moment of death, and very commonly it is absent when the symptoms arising from the condition of the heart are most urgent; it may set in suddenly after these have lasted for some time. Ascites, again, may occasionally be present independently of œdema, or it may persist after œdema has subsided, occurrences which are altogether exceptional, if not unknown in other forms of heart disease. When dropsy comes on comparatively early, regurgitation will usually be found as well as obstruction, and the incompetence of the valve may not improbably play a greater part in the production of the symptoms than narrowing of the orifice."

[1] Lancet, 1886, 1, 6.

[2] American Journal of the Medical Sciences, 1886, 1. p. 57.

I have met with an extreme degree of dropsy only when there has been tricuspid stenosis, as a complication by the initial stenosis, and have come, in the diagnosis of this complication, which in most cases does not reveal itself by separate physical signs, to rely upon blueness and lividity of the countenance, and to waterlogging of the tissues and cavities.

The seeming capriciousness of dropsy in heart disease long ago forcibly struck Walshe and led him to the conclusion that there is some active cause beyond and independent of the heart, something beyond and in addition to any one or any group of cardiac lesions which is required for the production of the dropsy. What this active cause is, Walshe does not state; but he dwells upon changes in the blood, in the vessel walls, and in the tissues themselves, as factors in the production of dropsy. Broadbent, on the other hand, believes it unnecessary to seek for any active cause outside of the heart, and thinks that Walshe and others who share his views, have fallen into error by allowing to simple venous stasis and consequent slowing of the circulation through the capillaries too prominent a rôle. He says: "But it is not a question merely of obstruction in the veins, but of pressure in the capillaries, and if *vis a tergo* in the arteries is wanting, the condition under which the exudation takes place does not arise. Of course, whenever the resistance to the return of blood to the heart is such that the pressure in the arteries is unable to overcome it, actual arrest of the onward movement of blood in the capillaries occurs, and life ceases at once; but, short of this, and subject to the production of the degree of intravascular pressure needed to keep up the nutricent overflow into the intertextural space, the movement of blood in the capillaries may be very languid. Given a retarded circulation through the capillaries produced by venous obstruction, the occurrence of dropsy will depend on the pressure of blood in the arteries, and in mitral stenosis the conditions are such as to forbid any augmentation of it. Followed to its source, the pressure in the circulation depends, ultimately, on the left ventricle. Increased resistance in the capillaries is met by the increase of strength and vigor given by hypertrophy, and when disease affects its outlet, compensation is obtained by hypertrophy with or without dilatation.

"Under certain conditions the left is reinforced by the right ventricle, under all conditions, in fact, in which the pressure in the pulmonary circulation is increased and the right ventricle is hypertrophied, except when such augmented pressure is intercepted by a narrowed mitral orifice. But in mitral stenosis the left ventricle is not hypertrophied, and, in consequence of the narrowing of the orifice, can get no help from the right, beyond such as is afforded by the more efficient filling of its cavity. The amount of blood entering it is, in advanced cases, probably less than normal, notwithstanding the increased pressure in the pulmonary circulation, and can scarcely at any time exceed the normal. It is not, however, propelled into the arteries with increased force. Although the veins there may be full, and there may be every appearance of backward pressure in the capillaries, the real source of pressure in the capillaries is wanting."

A NEW PHYSICAL SIGN OF TRICUSPID REGURGITATION.

"This sign consists in a distension, with or without pulsation, of the superficial veins of the neck, occurring when firm pressure is exerted over the liver in the direction of the spinal column, and independent of the movements of respiration. A little consideration of the anatomical relation of the parts concerned will suggest the facility with which an impediment may be created to the flow of blood, in either direction, through the vena cava inferior by such a manœuvre, especially when the liver is obviously enlarged. It seems to me that the state thus produced is virtually that which obtains as a chronic condition in long-standing and severe cases of tricuspid incompetence as far as regards the tension in the systemic venous system in the immediate vicinity of the heart. Assuming the existence of tricuspid regurgitation and of a source of compression of the vena cava inferior, it is obvious that with each systole an excessive reflex of blood must take place into the vena cava superior and its tributary veins. It may be noted that the question of pulsation as compared with pulsation or undulation, is merely one of degree of morbid venous tension. Although the number of cases in which I have observed this phenomenon is certainly limited, I have never failed to elicit it when there was indubitable evidence of tricuspid incompetence; on the other hand, I have hitherto invariably failed to obtain it in other forms of cardiac valvular disease, and in various cases of hepatic enlargement from causes other than passive congestions."

NEW HEART TONICS.

Spareine sulphate has been used with good effect by Sée,[3] who thinks its influence is more prompt and more enduring than that of digitalis. The base of the salt is derived from a variety of broom tops and, in combination with sulphuric acid, is quite soluble in water. The dose is ten centigrammes. "When the pulse is irregular, intermittent, and arythmic, sulphate of spareine rapidly re-establishes the normal type. When the circulation is slackened the drug seems promptly to oppose this functional trouble, while maintaining or even increasing the acquired force of the cardiac muscle."

[The drug can be had in this country but must come down in price before it can be much used. The present price to physicians is one dollar a gramme. The reporter has used it in two cases and knows of several others; in these the results were inconclusive.]

Strophanthin receives especial attention from Prof. Fraser in an article on the digitalis group.[4] Strophanthus is an African arrow poison, and Fraser has extracted from the seeds of the plant a crystalline body readily soluble in water and in rectified spirit; this he calls strophanthin. However introduced into the body this substance increases the contractile power of all striped muscles, and renders their contractions more complete and prolonged. The heart is early and powerfully affected, and by regulating the dose a distinct influence may be produced on the heart, while the other muscles are apparently unaffected. At the same time the blood pressure rises and in certain conditions the urine is increased and the temperature lowered. These facts led to the use of the drug in a large number of cases in which digitalis or its equivalent was indicated, and with most encouraging results. Further experiments on animals, digitalin and strophanthin being compared, lead Fraser to think that the latter

[3] Gazette Médicale de Paris, Nov. 28, 1885. Boston Medical and Surgical Journal, 1885, II, p. 599.
[4] British Medical Journal, 1885, II, p. 904.

exerts a much more powerful action on the heart and a less powerful action on the blood-vessels than the former. While he is not prepared to say what the exact significance to therapeutics of this difference may be, the advantage seems to lie with strophanthin in the treatment of cardiac disease. "In difficulties and embarrassments of the circulation depending on a central cause, it seems preferable to act upon the heart alone, rather than also to increase its difficulties by closing the blood-vessel into which it must empty itself."

Speaking of the digitalis group generally, Prof. Fraser says: "I regard, in common with many others, the characterizing action of the members of the group to be the action on the heart. They may be used with advantage in all weak states of this organ, whatever the cause of weakness, and their most satisfactory results are, I think, produced in mitral disease.

"They do little, if any, good when the cardiac muscle has undergone much degeneration; they sometimes fail, even while degeneration is absent, when lesions of the orifices throw too great a burden on the heart, and they are injurious when sufficient compensatory changes have been produced." In most of the cases the strophanthus was used in the form of a tincture prepared with the quantities prescribed in the British Pharmacopœia for tincture of digitalis. The dose is not definitely stated. Of the strophanthin the hypodermic dose seems to be grain 1-60. It should be added that Prof. Fraser's studies of this remedy have been going on now for fifteen years.

The drug is not yet to be had in this city, but a small quantity is on its way to T. Metcalf & Co.

THE ORIGIN AND DIAGNOSTIC IMPORT OF DILATED CUTANEOUS VESSELS NEAR THE LOWER BORDER OF THE LUNGS.

Sahli[5] has noticed this change especially in sufferers from chronic cough, and has often seen combined with it a line of minute ectatic vessels coinciding with the limits of the cardiac dulness. The explanation lies in the increased intrathoracic pressure resulting from the cough; the internal mammary and intercostal veins are compressed by the lungs and thus stasis is caused in the superficial cutaneous veins in the above situation. The cough persisting, gradually the vessels become permanently dilated.

Although the course of the line of dilated veins does not correspond exactly with the lower border of the lungs an unusually low situation of the line indicates a lowered position of the pulmonary border. This point enabled Sahli to diagnosticate emphysema in a case where the condition was quite masked by dropsical effusion. He thinks the presence of this line of dilated vessels may be taken as a safe indication of long standing cough.

TRAUMATIC PHTHISIS.

Mendelsohn[6] calls attention to a class of cases which seems to have escaped the attention of most writers on thoracic diseases with the exception of Lebert,[7] who says: "Traumatism is far from being rare as a cause of phthisis and one is justly surprised that the connection has attracted so feebly the attention of physicians." A few cases have been reported here and there in the journals; these Mendelsohn has collected, and adds to them nine cases from his own experience, in eight of which no hereditary tendency to the disease could be traced. The injuries were of different kinds and degrees of severity; in some there was no positive evidence of anything more than a severe shaking up or compression of the lungs; in others there was hæmoptysis, but this symptom may be absent although the lung tissue is more or less lacerated and the amount of blood expectorated is no reliable indication of the amount poured out into the fine structure of the organ. The tearing of the tissue, the bleeding, and inflammation with its accompanying hyperæmia, all favor the lodgment and growth of the tubercular bacillus. In ordinary phthisis the apex is the favorite seat for the commencement of the process because it is that portion of the lung which is ventilated with the greatest difficulty, and it seems highly probable that in these traumatic cases the limitation of movement dependent on the pain acts in a similar manner.

SÉE ON THE TREATMENT OF ASTHMA BY PYRIDINE.[8]

This colorless and strong-scented fluid is obtained from many organic substances by dry distillation. It has been detected in nicotine and other alkaloids and in the fumes of tobacco. It is probably the active principle of the various cigarettes and papers which have been recommended against asthma. Recent experiments by MM. Sée and Bochefontaine have shown (Bull. Géner. de Thérap., June 30) that it produces in frogs and guinea pigs a diminution of the irritability of the respiratory centre. Pyridine has been tried in asthma with marked success; four or five grammes of this fluid are poured on a plate and placed in a small room in which the patient remains for from twenty to thirty minutes, three times a day. The respiration becomes easy, and after a few sittings the disease disappears more or less completely. The inhalations have no bad effect on the heart or general health. In spite of these good results, M. Sée still considers iodine the best curative remedy in asthma; pyridine is chiefly useful against the attacks of dyspnœa.

TEREBENE IN CHRONIC BRONCHITIS.[9]

During the last five years Dr. Murrell has used this remedy with excellent results in cases of winter cough, having notes of 114 cases. The drug is prepared by the action of sulphuric acid on oil of turpentine and is not to be comfounded with a patent medicine sold under the name "Tereblene." It is pleasant to take, being a clear colorless liquid with an odor like that of fresh-sawn pine wood; it will not mix with water but can be taken on sugar. The dose is m. x–xxx every four hours, but it can also be atomized and inhaled. Larger doses are well tolerated, and the only disadvantage noticed from its employment is the peculiar odor it imparts to the urine, a circumstance patients never fail to mention. A case is reported which is said to be fairly typical of all, and certainly speaks well for the efficacy of the remedy.

— The *Union Pharmaceutique* states that, in a perfectly serious advertisement, a French oyster dealer offers for sale both ferruginous oysters and tar oysters.

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[5] Fortschritte der Medicin, 1885 p. 509.
[6] Zeitschrift für Klin. Med. 1883, X, p. 108.
[7] Traité Clinique et Pratique de la Phthisie Pulmonaire, etc. Paris, 1879.

[8] London Medical Record, 1885, p. 343.
[9] British Medical Journal, 1885, II, p. 1103.

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

F. M. BUCKINGHAM, M.D., SECRETARY.

February 22, 1886, the President, Dr. F. W. Draper, in the Chair.

POLYPUS RESEMBLING INVERTED UTERUS.

Dr. Minot reported the case, and showed the specimen, the chief interest of which lay in the diagnosis. The patient, a widow thirty-four years old, applied at the out patient department of the Massachusetts General Hospital, under the care of Dr. F. B. Harrington, stating that she had had a miscarriage four years ago, and no pregnancy since. During a year past she had had much pain in the back and pelvis, with frequent hæmorrhage. In September last she noticed a lump in the vagina, which afterward increased in size and then "went back." Three weeks ago, while lifting a heavy kettle, she felt something give way in the pelvis, was immediately seized with hæmorrhage, which had continued more or less profusely afterward, and found that the tumor had again descended into the vagina. As the diagnosis was uncertain, Dr. Harrington asked Dr. Minot to examine the patient with him. There was a firm fleshy mass in the vagina, of about the size and shape of the uterus. Its surface was uneven, of a dark color, and covered with blood, which flowed freely during the examination. The tumor seemed to be connected with the interior of the uterus, but the sound could not be made to pass between it and the uterine walls into the cavity. A sound in the bladder could be felt by the finger in the rectum.

On account of the restlessness of the patient from pain, the examination was not satisfactory; and it was decided that she should enter the hospital for a more careful one and for treatment. On the following day, the patient being etherized, it was found that the pedicle of the tumor was attached to the interior of the cervix, almost completely around, so that the finger could not pass beside it into the cavity of the uterus. After some search a passage was found into which the sound easily entered to a distance of two and a half inches in the downward and backward direction. The openings of the fallopian tubes were sought for, but could not be found. To make sure, a small portion of the mass was excised, which showed the appearance of the ordinary fibroid growth. The mass was then drawn down and cut off with scissors. There was no hæmorrhage of consequence, either at the time of the operation or since, and the woman has done well. The retroflexion explained the facility with which the catheter in the bladder could be felt in the rectum, as it passed directly over the uterus, thus adding to the embarrassment in the diagnosis.

It might be said that uterine inversion was impossible with the history of the case; but it was not thought justifiable to base a diagnosis, which might cost the woman her life if incorrect, upon her statements, since she might have some motive for concealing the real facts of the case.

Dr. Franklin H. Hooper read a paper on

ADENOID VEGETATIONS IN THE NASO-PHARYNGEAL CAVITY.[1]

Dr. Knight, who, unfortunately, was unable to be present, sent the following notes to be read by the secretary:

"I regret exceedingly to miss the reading of Dr. Hooper's paper, and not being able to open the discussion as you very kindly asked me to do.

"I well remember bringing up the subject of adenoid hypertrophy at the pharyngeal vault many years ago, when it first began to attract attention, in our old quarters in Temple Place. Some of the gentlemen present may remember the excited manner in which the late professor of pathological anatomy denied that there was any adenoid tissue at the vault of the pharynx, and how, having a good dissection on hand, I convinced him of its existence.

"A little later I was asked by a distinguished surgeon to examine with the posterior rhinoscope a young lady on whom he, a few days before, had performed tracheotomy, preliminary to the bloody operation of resection of the superior maxilla for naso-pharyngeal polypus. The gentleman confided to me with some anxiety that the tumor was not nearly so prominent as it had been. I found a moderate adenoid hypertrophy, which had probably been acutely swollen, and led to the erroneous diagnosis of naso-pharyngeal fibroid. The patient was discharged 'much relieved'!

"As we know it at the present day, this adenoid is capable of enormous hypertrophy, so that nasal respiration is completely occluded.

"In regard to its treatment, there is, I imagine, little difference of opinion about the necessity of removal, when it is sufficiently large to seriously obstruct nasal respiration, to seriously impair the voice, or threaten the hearing. To accomplish this, I have used the cutting forceps more than any other instrument, though I have occasionally removed large pendulous masses by means of the wire snare passed through the nose.

"I have shared the prejudice against the sharp spoons of various kinds which have been recommended for this operation, but the perusal of Trautmann's recent monograph, including detailed accounts of one hundred and fifty cases, makes me think that the operation may be done much more expeditiously with such a spoon as he recommends. He uses a large very sharp spoon, which is passed under the soft palate up towards the septum, and then made to cut across towards the posterior wall of the pharynx, getting out much larger masses than with the forceps. I attach some importance also to the fact that Trautmann was familiar with and used the cutting forceps before adopting the spoon.

"Shall the operation with forceps be done under the guidance of the rhinoscopic mirror? Certainly, if that is possible, but I can but think that the dictum in a recent treatise that forceps should never be introduced into the post-nasal region except under guidance of the rhinoscopic mirror is unnecessary. In many cases, on account of the age of the patient or irritability of the fauces, the mirror cannot be used at all. In using the forceps or any instrument in the posterior nares by the sense of touch alone, I think our efforts should be directed to clearing away the central mass which blocks nasal respirations and avoiding the lateral regions of the Eustachian orifices.

"In the cases of unmanageable children, it seems to me most satisfactory to resort to etherization at once. For an operation under an anæsthetic, the forceps is the best instrument, as, tearing off bits at a time, the

[1] See page 193 of this Journal.

hæmorrhage is usually trifling, and can be regulated, whereas, with an instrument making a large cut surface, the bleeding is sometimes profuse, and it might be hard to keep the blood out of the larynx."

DR. LANGMAID said that almost nothing could be added to the very interesting and complete paper which Dr. Hooper had read. He could not agree with the theory that the disease was congenital. He believed that it was generally the result of scarlet fever or measles. The physiognomy of the mouth-breathing child had been so graphically described that it might be well to refer to another characteristic which had not been mentioned, namely, the inhibitory effect upon respiration, which is almost always produced in severe cases. When the child is sleeping, the respiratory act is so interrupted that an interval of twenty seconds or more will elapse after an expiration before the delayed inspiration takes place. This is accompanied by, or rather, consists in a loud snort. This laborious and interrupted breathing is not unfrequently the cause of great anxiety to the child's attendants, who are in constant dread lest the breathing cease forever. In more than one instance the mother's health has been seriously impaired by long-continued night vigilence. No one need ever be in doubt as to the cause of such interrupted respiration in a young person.

Dr. Langmaid considered the method of making a diagnosis by means of the finger extremely fallacious. A rhinoscopic examination was not only desirable for diagnosis, but also for proper treatment. The time had long passed when the knowledge to be obtained by thrusting the finger into the naso-pharynx could be considered in any way equivalent to the exact information which the rhinoscopic mirror affords.

DR. J. O. GREEN said that when this adenoid growth closes the orifices of the Eustachian tube it prevents the ventilation of the tympanic cavity and in this way may produce various forms of inflammation; or inflammation may, also, by a mere process of extension from the original growths, reach into the Eustachian tube. A third ear complication may in his opinion be a small celled infiltration of the sub-mucous tissue, which infiltration becoming organized causes permanent thickening. Here the question of heredity comes up, and it is true that in some of the worst cases no such results follow. Nevertheless he is certain that he has seen cases in which it did follow.

The readiness with which the Eustachian tube when closed by these growths may sometimes be opened is sometimes striking, and it may then stay open. On the other hand even small growths may close it so that it closes again after inflation.

DR. C. J. BLAKE said that depression of the membrana tympani, with congestion of the mucous membrane and deafness are sometimes found in connection with these growths. He mentioned the case of a deaf patient, a mouth-breather with an adenoid growth in the naso-pharynx; inflation was not successful, but on removal of the growths, hearing became five times as good in one ear and more than twice as good in the other, and then after a few inflations soon became normal.

DR. FARLOW said that the expression of the mouth-breather is something very marked, as described by the reader. Patients so afflicted are often brought to the Dispensary rather for relief to the expression than on account of the breathing,

DR. J. O. GREEN said that emphasis ought to be laid on the tendency of these growths to shrivel after puberty. He mentioned a family in which all the sons were mouth-breathers in boyhood and all gradually recovered.

APPOINTMENT OF MEDICAL EXAMINERS BY THE STATE.

DR. CHAS. D. HOMANS, Chairman, stated that the committee appointed Nov. 23d to consider the above subject was ready with its report. The report, which follows, was read by Dr. Fitz, and was unanimously accepted.

REPORT OF THE COMMITTEE OF THE MEDICAL IMPROVEMENT SOCIETY ON MEDICAL EXAMINERS IN MASSACHUSETTS.

To the Boston Society of Medical Improvement:

THE undersigned, your committee appointed Nov. 23, 1885, to consider the subject of medical examiners in Massachusetts, respectfully report as follows:

The law concerning medical examiners was passed in 1877, and under its provisions there are at present seventy-two incumbents. These must be "able and discreet men, learned in the science of medicine." Seven years later Dr. F. H. Brown states (Medical Register for New England) that "since its introduction in 1877, about 9,000 cases of violent, sudden and suspicious death have been investigated in a satisfactory manner in Massachusetts, without any complaint from any one as to the abolition of the coroner and his jury."

A year ago the Governor of the Commonwealth found it necessary to make, in his inaugural address, the first public criticism of the working of the law. Admitting that on the whole it was satisfactory, he called attention to the possibility of its abuse in cases of railroad accident by permitting unnecessary autopsies with a correspondingly increased charge to the county or State. He gave an instance of such abuse, and recommended that a report of all autopsies should be made to the district attorneys, and that the examiners should "make oath in each case that in their judgment the cause and manner of death could not be ascertained by view and inquiry, and that an autopsy was fairly necessary for that purpose." Fees for autopsies were not to be paid except with the approval of the district attorney who was to examine the report and certify whether the autopsy was required. The governor also suggested the probable necessity of other amendments which should define certain words and clauses, fix the rate of fees, and otherwise make clear the intent of the statute.

The making of unnecessary autopsies with or without increased cost to the State, may be regarded as an indiscreet act at least, though not necessarily dishonest, and the medical examiner must be discreet. Your committee have been informed that the officer above referred to was removed.

It is to be regretted that the attention of his excellency was not at the same time directed to the apparently unnecessary extravagance of double inquests in fatal railroad accidents. The statutes not only require that the railroad commissioners shall investigate the causes of such occurrences, but that it shall be the duty of the medical examiner also to initiate a judicial inquest. The necessary legislation would thus have prevented a recognized abuse of official power and at the same time have caused an additional saving of the public funds.

The second public criticism comes from a medical source in the paper read before your body by Dr. W. C. B. Fifield. The question is raised by him "whether or not the time has come when the present system of medical examiners as appointed by the State ought to perish and give place to something better."

The main objections to the existing law as stated by the reader, relate to the method of appointment, and to the insufficiency of the payments for the services rendered. The former is claimed to be faulty since it results in the selection of incompetent officials and the use of unworthy means in obtaining the position. No facts are given as evidence of the insufficiency of the fees but it is obvious that incompetent incumbents easily earn their wages, and competent examiners, as represented by the Medico-Legal Society, have lately obtained a desired increase of fees.

Although a single instance is given of the payment of an agent for assistance in securing an appointment it is presumable that the appointee had other qualifications than those of a pecuniary nature. This fact does not strengthen the argument against the appointing power, as it is hardly probable that the sum was spent in bribery. As the instance referred to was published in the courts, the attention of the governor and council could readily have been directed to the transaction.

The value of an agent's services must be so limited that no action is recommended which shall guard against the possibility of his employment.

Your committee recognize the merits of the reader's definition of competency in medical examiners, and desire with him that "they should be in every instance well-bred and well instructed gentlemen, competent from education and professional training to fill this very responsible post, not to be entered into carelessly and thoughtlessly, but soberly and seriously, well weighing its many obligations; able to make an exhaustive *post-mortem*, with full knowledge of what will be demanded by the law; possessed of sufficient knowledge of chemistry and toxicology to recognize the *post-mortem* appearances produced by ordinary poisons and to determine their presence by chemical analysis."

They agree that the medical examiners in general have not attained, this standard but they cannot admit that a rigid practical examination of each candidate would secure such officers. On the contrary, if the examination could be made sufficiently severe to guarantee the desired result, it might well be questioned whether enough appointees could be obtained to serve the interests of the State.

As the medical examiners have now for the first time been publicly charged with incompetency, your committee have thought it of the highest importance to ascertain to what extent this accusation was justified. To form an opinion on this point they have considered *seriatim* the instances mentioned by the reader, have consulted the manuscript reports collected by the Medico-Legal Society, and have sought for information from the several district attorneys.

Six instances are mentioned in the paper presented to your Society.

First. The experience of the district attorney who refused, in the latter years of his practice, to present to the grand jury a case seen by the medical examiner unless it had first been submitted to an expert's guidance, with the view of securing at a *post-mortem* examination valuable evidence which might otherwise have been overlooked.

Your committee are of the opinion that the law does not require that the medical examiner should necessarily be an expert anatomist, and the above instance shows that the district attorney recognized this fact.

Second. An examiner neglected to obtain the negative evidence necessary to control the argument for the defence.

An error of omission which might have been obviated had the government secured the early assistance of an expert. The error of location in the indictment does not suggest medical incompetency, and the plain statement of the fact does not permit its author to be recognized.

Third. A medical examiner failed to secure suitable evidence of the manner of death. The examiner first called contented himself with a view, presumably unaware that the suspicion of murder was to arise. His diagnosis of death from disease of the heart was in accordance with a customary formula, the use of which is objectionable but likely to be retained while it is the policy of the State to discourage apparently unnecessary *post-mortem* examinations. The second examiner falsified a fact in stating the existence of what proved to be absent, and was incompetent as not showing a familiarity with an important branch of the science of medicine.

Fourth. A medical examiner was satisfied with the view of a dead body in the absence of information suggesting death from violence. This information would have been obtained had the law required an autopsy in all such cases, but Section 8 of the law reads as follows: "Whenever a medical examiner has notice that there has been found, or is lying within his county, the dead body of a person who is supposed to have come to his death by violence, he shall forthwith repair to the place where such body lies and take charge of the same; and if on view thereof and personal inquiry into the cause and manner of the death, he deems a further examination necessary, he shall . . . make an autopsy, etc."

Your committee cannot recognize the above as an instance of incompetency, even if it be admitted as one of negligence. The supposition of death from violence appears not to have arisen till some days after the view of the body, and the law is incomplete in not clearly defining what is meant by a view.

Fifth. A doubtful diagnosis. The anatomical evidences of typhoid fever and cerebro-spinal meningitis being usually sufficiently characteristic, the examiner must be deemed incompetent who makes a diagnosis of the latter affection from the inspection of the dura mater after a simple removal of a part of the lumbar vertebræ.

Sixth. Dissatisfaction of the jury with the medical evidence. That a jury finds death to have been caused by some unknown means, despite the medical evidence, is no proof of incompetency on the part of the examiner. If a district attorney and the examiner assisted by four experts, cannot convince twelve average men that five mortal wounds are fatal, your committee find no occasion to charge the medical examiner with incompetency.

The above detailed consideration of the instances cited by the reader leads to the conclusion that the errors of medical examiners are rather those of omission than commission, and in two instances are more the fault of the law than of the examiner. Two examples of actual incompetency are presented.

The medical examiner cannot be deemed incompe-

tent if innocent persons are arrested and imprisoned. If he suspects a death to result from homicidal violence he is not called upon to direct his suspicions towards individuals. The judicial officer, not the medical examiner, causes arrests and the former, not the latter, is to blame for unjust imprisonment.

The Massachusetts Medico-Legal Society includes in its membership a majority of the medical examiners in the State. During the first five years of its existence, beginning in 1877, an attempt was made by its secretary, Dr. F. Winsor, to collect and preserve full and detailed reports of the medico-legal work of its members. Eleven volumes of these manuscripts are deposited with the Boston Medical Library Association. Your committee have examined a sufficient number of these records to enable them to form a satisfactory opinion of the nature of the work done by the members of the Society in the years represented. The contributions were voluntary and obviously come from those members most interested in their work and obligations. It appears from the inspection of the reports of autopsies that there was no agreement as to the form and fulness of these records. Some are well-proportioned, clear and objective statements of facts, arranged in proper sequence and logically justifying the final opinion of the cause and manner of death. Others are unsatisfactory as failing to present all the evidence necessary to justify the conclusion. In a few, faults of omission are conspicuous and methods of statement are inaccurate.

The importance of obtaining the opinion of the prosecuting officers as to the competency of medical examiners is apparent. As your committee were appointed in somewhat indefinite though very comprehensive terms, to report upon the whole subject, they addressed a circular letter to each of the eight district attorneys of the State. Information was sought as to the competency of the examiner, the satisfactory nature of his work, the feasibility of reducing the number, and the least number necessary for the timely performance of the duties. A reply to this circular was received from each of the officials addressed, and your committee take this opportunity of expressing their obligation for the willing, comprehensive and suggestive answers.

One medical examiner was found incompetent, and it is not unlikely that he was one of the two referred to in Dr. Fifield's paper. The errors of certain examiners were as often due to defects of the system as to those in the examiner. Two were regarded as unduly zealous in making autopsies. In no instance, however, was there any delay or failure of justice in consequence of unsatisfactory work on the part of the medical examiner.

The evidence thus attained from various sources goes to show that among the seventy-two medical examiners two, at the most three, had been recognized as incompetent, yet their incompetency has not caused a delay or failure of justice. A considerable difference in the ability, discretion and learning of the several examiners undoubtedly exists and is likely to continue, whatever change might be made in the method of appointment. Errors of omission and obscurity of statement occur, but these are faults which can be very considerably diminished.

The existing law offers a simple and rapid method of disposing of incompetent examiners. Section 4 provides that they "Shall be liable to removal from office at any time by the governor and council for cause shown." All the prosecuting officers of the commonwealth, the mayors of cities, the selectmen of towns, the commissioners and treasurers of counties, are immediately interested in the accuracy, thoroughness and honesty of the work of the medical examiners. Any or all of these officials would be compelled to show an existing cause for removal, if for no other reason than to relieve themselves from a possible urgent public criticism.

With the recognition of the desirability of more nearly approaching the ideal standard of the medical examiners as raised by the reader of the paper, the question arises as to the means to be employed which may bring about this result.

Dr. Fifield suggests that the law be amended by the appointment of an examining committee to nominate candidates, or that the latter present certificates of proficiency from teachers of medical jurisprudence. How shall the examining committee be appointed and of whom shall it be composed? The evils of the existing law must be extreme before so radical an amendment could be adopted, and then the possibility of even worse evils is manifest. A board representing the several medical interests of the State, especially with members selected through political influences, would be in danger of recommending candidates whose action might prove criminal as well as ignorant. The Utopian nature of this proposition is admitted by its advocate.

If all the medical schools of the country were of the same high character, and in each a thoroughly qualified teacher of medical jurisprudence gave instruction with abundant opportunities for illustration, certificates from the latter might possess a certain practical value. The relative merits of candidates, however, cannot be determined by means of certificates of proficiency from different sources. Furthermore, the appointing power should demand evidence of other qualifications in a candidate than his ability to answer certain questions in a becoming manner.

Your committee are therefore of the opinion that any feasible change in the method of appointing medical examiners is not sure to improve their quality.

It seems, however, that the public welfare, so far as it depends upon the work of the medical examiner, might be decidedly promoted were a smaller number of more highly qualified persons selected for this office. A suitable salary as well as the dignity of the position would enable the services of the most desirable to be secured, and these would become all the more competent from the more frequent opportunities of investigation furnished each. A recommendation tending to bring about such a change is not made since the work of the examiners, almost without exception, is at present satisfactory to the prosecuting officers and causes no delay or failure of justice. Although certain of the district attorneys admit the possibility of more efficient work from a smaller number of examiners, the expediency of the change is questioned. Should the time arrive when the expediency is generally admitted, your committee are strongly of the opinion that the suggested modification would be productive of the greatest possible benefit.

Your committee are unwilling to conclude their labors without very decidedly urging the adoption of a system of making returns which shall tend to relieve the medical examiner from the deserved charges of errors of omission and inaccuracy of statement.

Each examiner should be provided with printed directions of procedure in all cases likely to require his services. The method of making a *post-mortem* examination should be so ordered as to demand a systematic, clear and objective statement of the physical condition of the various organs of the body and the appearance of its surface. The inquiry should be strictly limited to the cause and manner of death, and printed blanks might be prepared for general use. These should comprehend not only all the data necessary to prove the assumed cause of death, but also the evidence which might be needed to control the assumption of other theoretical possibilities of death.

In cases of suspected homicide another medical examiner might be called as the medical witness allowed by law. Certain of the district attorneys authorize a medical expert to be employed at the outset in these cases at the discretion of the medical examiner, and such practice would undoubtedly become general if requested. If the suspicion of homicidal violence is urgent the police or constabulary as well as the district attorney and justice should be immediately notified, that the surroundings of the dead person may be investigated by the authorized agents of the law with as little delay and as little alteration as possible.

The statute now provides that duplicate copies of the records of an autopsy shall be deposited with the district attorney and a justice. If one of these copies were periodically filed with some duly appointed board or official of the State, the appointing power would be provided with easily available evidence concerning the qualifications of incumbents.

The valuable suggestion from the reader of the paper that a central commission be appointed to sift the returns from the medical examiners, for the sake of furnishing the legal officials with the results of this analysis, might be embodied in the necessary recommendation. In his inaugural address previously referred to, the governor advised that the medical examiners be required to report the cases investigated by them to the State Board of Health, Lunacy and Charity. If a State Board of Health is established by the present Legislature it is possible that the responsibilities of the desired commission might be advantageously placed in its hands.

In conclusion your committee recommend that a committee be appointed to bring before the next Legislature the desirability of such action as shall refer to an appropriate State Board or official, the establishment of definite and detailed rules of procedure for medical examiners, and the collection and preservation of their records.

C. D. HOMANS, M.D.
R. H. FITZ, M.D.
GEORGE B. SHATTUCK, M.D.

BOSTON, Feb. 22, 1886.

CAMBRIDGE SOCIETY FOR MEDICAL IMPROVEMENT.

COMPLIMENTARY DINNER TO DR. MORRILL WYMAN, FEBRUARY 17, 1886.

A COMPLIMENTARY dinner to Dr. Morrill Wyman was given February 17th, at the Parker House, by the Cambridge Medical Improvement Society. Between thirty and forty physicians of Cambridge and vicinity, members of the Society, were present. The present year is the forty-ninth of Dr. Wyman's practice. After this long service he has thought best to retire from the duties of family physician, continuing simply those of consultant.

After the dinner which occupied the time from 6.30 to 8.30, Dr. S. W. Driver, the president of the Society, opened the speaking, referring to the pleasent relations which had always existed between Dr. Wyman and himself, to Dr. Wyman's progressiveness, to his wise conservatism, and to the healthful conception of what is to be expected from medical treatment with which he had imbued his patients. Dr. Driver also spoke of his valuable services as a member of the Board of Overseers of Harvard University.

DR. WYMAN then acknowledged the honor paid him by the Society in desiring to meet him socially. He thought that the physicians of Cambridge are remarkable for their urbanity and good will to one another. Among the various influences which maintain a high standard in the medical profession of this City, Harvard College in its varied relations to the people of Cambridge, is not the least. Dr. Wyman then spoke of the Cambridge Hospital, and expressed the hope that the physicians would willingly assume the duties incident to the complete success of such an institution. In closing, he proposed the following sentiment: "The physician, consecrated to humanity; may he ever be true to his sacred office!"

DR. W. W. WELLINGTON, who began practice one year later than Dr. Wyman, recalled early reminiscences of medical education and practice.

DR. J. T. G. NICHOLS responded to "The Cambridge Medical School." He read one of the early circulars which declared the purposes of the school, and outlined the course of study. The school was organized as a department of the Lawrence Scientific School. Its list of instructors contained the following names: Jeffreys Wyman, Morrill Wyman, Louis Agassiz, Asa Gray, Joseph Lovering, and Josiah P. Cooke, Jr., Morrill Wyman holding the position of adjunct professor of Theory and Practice. In commenting on the various instructors, Dr. Nichols spoke in warm praise of the faithfulness, kindness, and lofty character of Jeffreys Wyman.

"Courtesy of the senior and loyalty of the junior" called up Dr. J. L. Hildreth, who spoke of the kind reception which Dr. Wyman gave him when he came to Cambridge, and of the conviction of Dr. Wyman's sincerity and professional honor which he received at his first interview.

DR. L. R. STONE, of Newton, gave a brief history of paracentesis thoracis, referred to the first case in which Dr. Wyman performed it, and spoke in high terms of his valuable service in demonstrating the benefits of the operation, and in bringing it into general practice.

DR. A. P. CLARKE proved himself the poet of the evening, and entertained the company by sounding the guest's praises in verse.

"A sore back never helped a poor brain" brought Dr. E. R. Cogswell to his feet, who said that although a number of years have now passed since Dr. Wyman was a member of the School Board, the effect of his wise counsel is still evident in the improved methods of school discipline, corporal punishment having been practically abolished, and the present methods of school government inaugurated through Dr. Wyman's efforts.

DR. R. L. HODGDON, of Arlington, in speaking of "the physician in consultation," said that he had called Dr. Wyman in consultation oftener than he had any other one physician, oftener, perhaps, than all others; that he had received from him valuable assistance; that he had found him a man who would not assert more than he had good reasons for asserting, and who, in puzzling cases which admitted of no solution was not afraid to say, "I don't know."

Surgeon-General A. F. HOLT represented the State, and expressed his high regard for Dr. Wyman's public spirit in all the relations of true citizenship.

DR. J. B. TAYLOR responded to "The Cambridge Hospital." He briefly sketched the history of the movement for its establishment, referred to the care exercised in planning and constructing the building, and ascribed the success of the enterprise as far as it has been carried, the thoroughness of construction, and the excellent adaptation of the building to its requirements, to Dr. Wyman's careful investigation and foresight, and to his watchful oversight of the work of contractors and employés.

DR. H. P. WALCOTT's subject was Dr. Wyman's literary work. He spoke in particular of his Thesis on Ventilation, afterwards enlarged and published in book form; of his essay on Autumnal Catarrh, and of his essay read before the Massachusetts Medical Society in 1863, on the Reality and Certainty of Medicine.

The various speakers enlivened their remarks by personal reminiscences, and paid high tributes to Dr. Wyman's character and ability.

DR. J. W. BEMIS sent a letter expressing regret at his enforced absence, and his high appreciation of Dr. Wyman's attainments, and of his services to the profession.

Soon after ten o'clock the company sang "Auld Lang Syne," and dispersed.

NEW YORK COUNTY MEDICAL ASSOCIATION.

STATED meeting February 15, 1886.

DR. FREDERIC S. DENNIS read a paper on

LAPAROTOMY IN THE TREATMENT OF PENETRATING AND VISCERAL INJURIES OF THE ABDOMEN.

Having referred to the importance of the subject, he said that this was an operation which, limited to penetrating wounds of the abdomen, no surgeon had ever performed until within a few months past. It was therefore natural that great interest should be felt in it; and there was still much diversity of opinion in regard to it. The present was, then, a fitting time to discuss the propriety of the procedure. He felt obliged, he said, to differ from the late Dr. James R. Wood in regard to this; and, in the light of the recent advances in antiseptic surgery, he did not doubt that that distinguished authority would have modified his views upon the subject. The methods which now render laparotomy possible in such a large proportion of cases were inadequately understood a few years ago. Experimental research has now rendered it possible to perform operations which were formerly impossible, and without the pale of legitimate surgery. The crucial test of experiment had demonstrated that, under proper conditions, the opening of the peritoneal cavity was not attended with any great danger.

Having remarked that shock was not to be considered by the surgeon in performing laparotomy, he went on to speak, first, of

PENETRATING STAB-WOUNDS.

He related in full the case of a young man of twenty-two, who was admitted to his wards at St. Vincent's Hospital in November, 1885, suffering from two abdominal wounds inflicted with a knife. The intestines which were perforated protruded, and there was fæcal exudation, but not into the peritoneal cavity. The wounded intestine was sewed up with catgut sutures, and, after a thorough examination had been made for other wounds in it, returned to the cavity, and the external wound closed. The patient made a perfect recovery, and was presented to the members of the association for inspection of the cicatrix. Dr. Dennis remarked in connection with the case, that the operation of exploratory laparotomy was not called for in this instance, because the intestines protruded, and could be drawn out and sufficiently examined without such an operation, and that a concealed wound would have been much more dangerous.

A second case recently under his care was that of a negro, fifty-seven years of age, who was admitted to St. Vincent's Hospital December 20, 1885. He had been stabbed in the umbilical region, to the left of the median line; and from the wound, which was one and a half inches in length, protruded a finger-shaped piece of omentum, the latter being tightly constricted by the wound. Antiseptic gauze was immediately placed over the parts; and three hours after the accident, laparotomy was performed under the strictest antiseptic precautions. A vertical incision was first made in the median line, and then a second one diagonally, joining the wound to this. The viscera were thoroughly examined, from the stomach to the sigmoid flexure of the colon. The small intestines were turned completely out of the body, and the omentum and mesentery carefully inspected; but no injuries were found. This patient also had made a complete recovery, and, like the other, was presented. The piece of omentum which had protruded from the wound was also shown. Dr. Dennis said that it might be objected that laparotomy was not necessary in this case, but he would remark that this fact was not known at the time. If the intestines *had* been wounded, and laparotomy had not been performed, the patient would undoubtedly have died. The laparotomy was necessary, therefore, in order to find out what the actual condition of affairs was. This, he believed, was the first exploratory laparotomy which had ever been made in the case of a stab-wound, where it was not known that the intestines were wounded. Stab-wounds however, were not so dangerous as gun-shot wounds.

In another case of this kind, he would recommend that the wound itself should be enlarged sufficiently to make an examination of the intestines before performing laparotomy proper, this procedure being a little more conservative. The operation in this instance had not been sudden and unpremeditated, but was the result of much study and experience in connection with other similar cases. He then related four cases in which death had resulted under the old methods of treatment. In the fourth of these, a volvulus was found at the autopsy, and he had no doubt that laparotomy would have saved the life of the patient, although there was no wound of the intestine. He was of the opinion

that this condition was the cause of many deaths, and said that it offered a new indication for laparotomy.

DR. DENNIS then gave reports of a number of other cases, accompanying many of them with "the presentation of specimens." The first of this series was also an instance of volvulus, resulting from the spasmodic condition of the intestines. In this case, although laparotomy was performed, the patient died, not from the operation, but from fæcal exudation. A resection of the injured intestine was made in this case. In the second, death also occurred from fæcal exudation. There were seven perforations of the intestines, but the sutures with which the injuries were repaired held so firmly that no leakage occurred when a strong stream of water was turned into the gut. There were three cases in which the patients recovered after laparotomy, the stomach being perforated in one of these. Dr. Dennis gave a list of the various cases of laparotomy in stab-wounds reported by various surgeons. Of six cases of his own, four recovered and two died.

He next went on to speak of laparotomy in pistol-shot wounds of the abdomen, and, in the first place, referred to Dr. W. T. Bull's remarkable case, which, he said, was a new application of laparotomy. He then mentioned two cases of his own.

The first was that of a young man twenty-three years of age, who was admitted to the 99th Street Reception Hospital January 2d, 1886, suffering from a penetrating wound of the abdomen, caused by a 32-calibre ball. Severe shock was present, but laparotomy was performed, when he found that there was the most profuse hæmorrhage in the cavity. The examination showed that the principal source of this was the veins in the transverse fissure of the liver. There was no wound of the intestines. On account of the extreme exhaustion of the patient, transfusion was resorted to, twelve ounces of a saline solution being injected into the radial artery. This was followed by marked benefit, and the same thing was, therefore, repeated every four hours, the canula in the meanwhile being retained in the artery. At the end of forty-eight hours, however, the patient died, and at the autopsy, the bullet was found imbedded in the right lobe of the liver, the wound being necessarily a mortal one on account of the irreparable injury to large blood-vessels. (Specimen exhibited.)

Another patient, aged twenty-two, was admitted to the same hospital January 10th, 1886, also suffering from a penetrating abdominal wound inflicted by a 32-calibre pistol. He had marked shock, and laparotomy was resorted to by Dr. Dennis. There was fæcal exudation, and seven openings in the intestine, with one in the mesentery, were found. The hæmorrhage was so enormous that, on account of the alarming condition of the patient, the operation had to be abandoned before its completion, and death ensued in forty-eight hours after the injury. At the autopsy the cavity of the abdomen was found completely filled with blood, but the sutures which had been made in the intestines rendered them perfectly water-tight.

Dr. Dennis remarked in connection with the frightful and uncontrollable hæmorrhage met with in these two cases, that at present the great desideratum in laparotomy for penetrating wounds was some means of arresting hæmorrhage from such large vessels as the vena cava, the iliac veins, and the portal veins, and it had occurred to him that this might possibly be accomplished by constriction of the thighs and the waist for a sufficient time to enable the surgeon to secure the bleeding trunks. When this point was accomplished, he believed that laparotomy as an operation would meet with the most brilliant success.

He then referred to some cases in which laparotomy was not performed. In one instance, ten perforations of the intestines were found at the autopsy, and the failure to perform the operation therefore deprived the patient of the only chance of recovery that he had. In this case, the existence of perforations was not suspected by the surgeon in charge until shortly before death, so that it forcibly illustrated the advisability of exploratory laparotomy even in comparatively favorable cases. Where there was perforation of the intestines, the injury was necessarily fatal unless laparotomy was resorted to. He thought it highly desirable that surgeons should report all their cases of laparotomy, whether successful or not.

The third indication mentioned was rupture of the intestine. A number of cases, illustrated with specimens, were related. In two the patients were run over, and in the others, injuries of various sorts were received. Dr. Dennis said that so far as he had been able to find, only two cases had been reported of laparotomy for rupture of the intestine due to traumatism. One of these had been reported by Mr. Owens, of London, in the *Lancet*. The patient was struck in the abdomen by a heavy plank, and an exploratory laparotomy was performed, but a fatal result ensued. He then referred to cases reported by various surgeons, which showed the necessity of laparotomy, although it was not performed.

In speaking of this class of cases he referred to emphysema of the tissues and loss of hepatic flatness on percussion as indication of perforation, and to several other points. Collapse was the only constant symptom, but it was not pathognomonic. In cases of rupture, the rupture was always in the small intestine. The contraction of the muscular fibres usually prevented fæcal extravasation. The performance of laparotomy in these cases enlarged the domain of abdominal surgery, although as yet no successful result had been reported.

He then referred in detail to the various signs of visceral perforation in general, among which are mentioned: (1) Fæcal extravasation. This was a positive one. (2) Emphysema of the tissues. This was also a positive one, and was of very great importance. (3) Shock. The persistency of the shock was of more significance than its severity, and when it was persistent, it afforded a strong link in the chain of evidence. The shock, he went on to say, was more apparent than real, being due rather to the sympathetic than to the cerebro-spinal system, as was also the case in strangulated hernia. He thought its presence should not deter the surgeon from performing laparotomy, and in his own cases, he had found that the collapse improved after the opening of the abdomen. Shock, however, offered no direct evidence of perforation, and a number of cases are on record in which, although there actually was perforation, there was little or no shock present, and death occurred almost without warning. (4) Tympanic resonance over the liver. This was an important sign, and Professor Flint had found that wherever there was persistent flatness over the liver, no perforation was present.

Having briefly mentioned sudden meteorism, subnormal temperature, fixed localized pain, vomiting and

bloody stools, and other signs which were sometimes met with, he stated that, in consequence of the length of the paper, he would be obliged to omit the part of it devoted to the technique of the operation, and would proceed to give the conclusions at which he had arrived, which were as follows:

First. That penetrating stab-wounds of the abdomen are less fatal than penetrating gun-shot wounds, but that the former are fatal in too great numbers to justify reliance on the older methods of treatment.

Second. That if the stab-wound has injured the intestine or any abdominal organ, laparotomy is indicated. That it may be indicated also in cases where the gut is not perforated, but where the gut may become twisted, as a result of the stab-wound.

Third. That in a penetrating stab-wound in which doubt exists, the diagnosis should be made certain at once, in order to pursue a proper line of treatment.

Fourth. That laparotomy offers no additional danger to the patient, if properly performed with the strictest antiseptic precautions.

Fifth. That while the number of cases in which there was an exploratory laparotomy made in stab-wounds of the abdomen affords insufficient data upon which to establish any fixed rule of practice, the same principle which is recognized in the performance of laparotomy for gun-shot wounds of the abdomen, is one applicable to penetrating stab-wounds.

Sixth. That the enlargement of the original wound for an examination of the peritoneal cavity will not enable the surgeon to exclude, in all cases, fæcal extravasation, perforation, volvulus, and hæmorrhage. These may all exist, and yet no evidences of their presence be manifested upon inspection through a small opening.

Seventh. Neither the size, shape, character, and velocity of the bullet, the attitude of the patient at the time, nor the kind of weapon used to produce a stab-wound, seem to him to influence the question of laparotomy.

Eighth. It is possible to have a fatal hæmorrhage from the large venous trunks in the abdomen, and this hæmorrhage not be discovered until the cavity is about to be closed.

Ninth. That the sutures, if properly applied, will close the perforation in every case, no matter how lacerated the wounds are, or the sutures will close the wound in case of resection of the gut, so that no leakage will occur if water is forced through the sutured intestines.

Tenth. The success of laparotomy is to be attained when every arrangement is complete and perfect.

DISCUSSION.

DR. JOSEPH D. BRYANT said that it was unnecessary for him to state that he was heartily in favor of laparotomy, but the two distinct forms of the operation should always be considered separately, namely: exploratory laparotomy, and laparotomy in its entirety. The exploratory operation he said he would employ far more frequently than is at present the case, believing, as he did, that when performed under proper conditions, it exposed the patient to no unusual danger. It was a perfectly simple matter to open the abdomen; but when called upon to make a thorough examination of all the viscera, to arrest hæmorrhage at all bleeding points, to suture the intestines, and to perform the toilet of the peritoneum, it was a very different matter, and a procedure which was likely to employ from one to three hours. He said he called attention to this point in order that the gravity of the operation of laparotomy in its entirety might be fully understood.

Whether shock was present or not, it was perfectly justifiable to perform exploratory laparotomy, and the incision might be in the median line or in the seat of the wound, according to circumstances. In regard to shock, he said it was a principle pretty well established, that penetrating gun-shot wounds of the abdomen, provided they do not cause hæmorrhage or the injury of nerve-trunks, are not followed by much shock. When there was severe shock and subnormal temperature, it generally indicated hæmorrhage, and, therefore, as Dr. Dennis had remarked, severe shock was no contra-indication for laparotomy. He would not consider a case of laparotomy in its entirety, one in which there were found no injuries of the intestines or other viscera. If this was the case, it was merely an exploratory laparotomy. Hæmorrhage was a very important symptom, and it was absolutely necessary that any bleeding point should be satisfactorily secured. Not infrequently, very slight oozing became changed to profuse hæmorrhage when the abdominal contents were returned to their places, and the cavity was closed up. Experiments which he had made on dogs (shooting them in the abdomen, and then performing laparotomy), had further convinced him of the extreme importance of hæmorrhage in gun-shot wounds of the abdominal cavity.

DR. E. G. JANEWAY said that the absence of hepatic dulness was a good general guide as to the existence of perforation, but there were a certain number of instances which simulated this condition. Thus, in a case of typhoid fever under his observation, in which on account of the loss of liver dulness, perforation was supposed to have taken place, it was found at the autopsy, that the resonance over the hepatic region was, in reality, due to the tilting of the liver. In regard to the operation, one possibility had occurred to him. Eberth, in his experiments on dogs, had found that by immersing the abdomen in a serum bath 98°, thrombosis and peritonitis could be prevented. Possibly, therefore, it might be advisable to operate on human subjects in the same way. It would hardly be safe to use bichloride of mercury as the antiseptic under the circumstances, but a warm saline solution might be employed for the bath.

DR. J. W. S. GOULEY said that he believed that the views expressed this evening were sound. The operation of laparotomy was justifiable when we had reason to believe that the hollow viscera had been injured. He then related two cases which had come under his own observation. The first was that of a young soldier twenty-two years ago, who suffered from a bayonet wound which passed completely through his body. It was not clear what organs had been injured in its course; but nothing was done, and the patient got well without a bad symptom.

The second case was one in which there was a pistol shot wound which also passed completely through the body. It injured the right lobe of the liver and the lower lobe of the right lung; and bile flowed freely out at both openings, mingled with the pus. In this case also recovery took place under the expectant plan of treatment. During the war he had in fact seen several cases which resulted successfully in a similar manner. At the same time, if he were to meet with

such cases to-day, he did not hesitate to say that he should prepare himself to open the abdomen.

DR. H. M. BIGGS said that in regard to the loss of liver dulness, he had met with a case which showed that this could not be relied upon as an infallible sign of perforation. The patient was suffering from peritonitis, and when the absence of hepatic dulness was detected, it was supposed that perforation had occurred. There was no operation, and the patient died; when it was found at the autopsy that the cause of the resonance in the hepatic region was that the intestines had become forced between the liver and the abdominal walls, and that no perforation had taken place.

The President, DR. C. A. LEALE, then related an interesting case of penetrating wound of the abdomen, with recovery, which had been under his care during the late war.

Recent Literature.

Facts and Mysteries of Spiritism Learned by a Seven Years' Experience and Investigation. By JOSEPH HARTMAN. Philadelphia: T. W. Hartley & Co. pp. 380.

If seven years of ardent investigation does not qualify a man to tell much about the wonders of "spiritism," it would seem as though he were spending his time to little purpose.

This book seems to be the candid and honest statement of one who is thoroughly convinced of the fundamental assumption of modern spiritists. Mr. Hartman claims personally to have had evidence which places beyond doubt the reality of all that Swedenborg experienced or Swedenborg's modern successors claim; spirits have conversed with him and made him their instrument, looking through his eyes, as one looks through a window (page 234), hearing with his ears, and making use of the perceptions in his mind to acquaint themselves with what was going on in the world (see Sequel); he for a while surrendered himself willingly to their influence till he found himself mocked and betrayed by his celestial visitants. In fact, the author eventually discovered to his horror that the "spirits" are all vain, lying spirits, deceiving and leading astray "demons," "whose mission is to destroy men's souls," and though they often personate the great and good, yet "they are always and without exception evil."

The book is evidently written with a good intent, and it is very probable that there is in this land a large class of readers to whom such an "exposure" may be beneficial and salutary, calling them back from unprofitable ultra-mundane speculations and frivolities to the practical realities and duties before them.

To medical readers this work will have an interest of a different kind. How, in accordance with known laws of the nervous system, to explain the curious psychological problems which are presented in every page of Mr. Hartman's volume; this is a subject which cerebral physiologists and especially alienists would do well to grapple.

E. P. H.

—M. Paul Bert, the eminent French physiologist, has accepted the political appointment of governor of Tonquin.

Medical and Surgical Journal.

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DIABETES AND PERFORATING ULCER OF THE FOOT.

ANY person who has met with even a few cases of perforating ulcer of the foot must have found difficulty in classifying them as to their origin and therefore in placing their treatment on an appropriate basis. Certain ulcers of the plantar surface are evidently coincident with, and apparently the result of nervous lesions; others are as evidently not at all connected with nervous lesions. In an interesting article in the *Revue de Chirurgie*, Dr. M. Jeannel, Professor of Clinical Surgery in the School of Medicine of Toulouse, makes certain suggestions in connection with the *mal perforant*. In the first place he makes two distinct classes of the disease, a distinction not unrecognized by others; the false, which consists of inflammation and suppuration of the callosities or of the subjacent bursæ of the foot, and which are purely of local and traumatic origin: the true, the seat of which is variable and in no necessary relation with the callosities and bursæ of the plantar surface; whose gravity is great as compared with the benignity of the first form; which recur with discouraging perseverance and are often accompanied by anæsthesia more or less extended and which are in a word veritable trophic troubles. It is in these last that degenerative lesions of the nerves have been demonstrated, while in the first nothing of the sort can be found.

Arnozan[1] showed the frequency of perforating ulcers in toes previously frozen and where in consequence a primitive neuritis exists; following traumatic sections of the sciatic nerve; wounds or simple contusions of the spine; accompanying locomotor ataxia and more rarely with progressive muscular atrophy; and he concluded that the perforating ulcer of the foot had in a great number of cases a nervous origin either central or peripheric. (Nicaise claims that while "the occurrence of a perforating ulcer is singularly favored by the previous existence of trophic disturbances of nervous origin, this affection is not met with unless a local compression intervenes.")

[1] Des Lésions trophiques consécutives aux maladies du système nerveux. Paris, 1880.

In the same way are explained the phenomena which sometimes precede the plantar ulceration, such as the shooting pains, the motor troubles, the lesions of the nails, and the erythemas, as well as the frequent recurrence of the disease which presents itself either in the cicatrix, at some other part of the foot or upon the stump, if amputation has been practised. It is also true that a number of cases of *mal perforant* occur with shooting pains, motor and sensitive troubles, lesions of the nails and erythemas, without antecedent frost bites or section of the sciatic, without wound or disease of the spine of any sort. Something further remains then to be done in fixing upon the cause of these apparently spontaneous cases.

Dr. Jeannel has had an opportunity of treating two cases of perforating ulcer in individuals in whom none of the above named nervous troubles were present but who were the subjects of well-marked saccharine diabetes. He has also watched a third case in the practice of one of his colleagues in which were five ulcers on the left foot with a spontaneous amputation of the toes; in which case there was no spontaneous or traumatic lesion of the medulla, but sugar was present in the urine. Dr. Jeannel naturally inquires if the relationship of cause and effect is possible between diabetes and perforating ulcer.

As to the possibility of such a relation of cause and effect he thinks it incontestable, admitting on the one hand that true *mal perforant* is a trophic trouble recognizing as cause a series of known or unknown central (or peripheric) nervous affections, which seems to be absolutely demonstrated; and admitting on the other hand that diabetes is itself a nervous affection. The last factor of the problem is to-day only a strong presumption, since the encephalic anatomo-pathologic lesion is only rarely demonstrable, but one must take account of the fact that in physiological experiments it is possible by the lesion of a determined point of the nervous centre to produce glycosuria, and on the other hand nervous accidents occur in diabetes. As a central nervous lesion diabetes may engender trophic lesions and it does give rise to many. What in effect are carbuncles, furunculous and ecthymatous outbreaks, gangrene, diabetic ulcers, cataract and the spontaneous amputation of the toes already referred to, if not veritable trophic troubles. These same lesions are so characterized when they are observed in connection with known medullary lesions: why refuse them the same quality when they are observed in connection with diabetes.

En résumé, Dr. Jeannel thus states his case: On the one side *mal perforans* is a trophic trouble observed in many central nervous affections sometimes alone, more often accompanied by other lesions of the same group: on the other side it is very probable that diabetes is a central nervous affection, it is certainly a general dystrophy; and lastly, one observes in diabetics cases of *mal perforans* alone or accompanied by well characterized trophic lesions. Observation must finally settle the relationship and resolve at least in part the double question, the etiology of *mal perforans* and the nature of diabetes.

Dr. Jeannel quotes four cases beside his own, and mentions some references to the same possible connection by other writers. It is evident that the connection is by no means established; if it exists and is at all common it must often have been overlooked; but the article in question will stimulate others to watch more carefully for the possible constitutional condition behind the local lesion of *mal perforant*.

ANNUAL REPORTS OF THE PRESIDENT AND TREASURER OF HARVARD COLLEGE.

The reports of the President and Treasurer of Harvard College for the year 1884–85 contain the usual information in regard to the condition of the various schools and departments of the University and the changes which have taken place in the twelve months.

The report of the Dean of the Medical School is of more particular interest for our readers. The year in this school was one without especial changes, marked rather by the appreciation and utilization on the part of both teachers and students of the ample accommodations afforded by the new building. Some modifications in lighting, heating and ventilation were found necessary and have been made. Some valuable additions have been made to the Warren Museum by the Anatomical Department, and in each of the laboratories for physiology, for chemistry, hygiene, pathology, histology and embryology, some original work has been carried on, and much of it has found publication.

The whole number of students in attendance during the year was 257; during the first term 254; during the second term 235. Of these 133 had literary or scientific degrees; 47+ per cent. of the whole number in attendance having the degree of A.B., whilst 76+ per cent. of the students at the Law School and 80+ per cent. of those at the Divinity School had this degree. There were 67 applicants for the degree of doctor of medicine in the three years' course, of whom eleven were rejected; there were six applicants for the degree in the four years' course, of whom three were rejected, and of the three who received this degree two received it *cum laude* and with it the degree of A.M.; of the 16 students, however, composing the fourth class ten postponed graduation.

The important question before the school at present is that of prolonging the course required for the degree to four years. The present voluntary fourth year was established in 1878 as a compromise between the old three years' course and a compulsory four years' course. It was regarded as tentative and experimental. During the eight years since the course was established the following have been the number of students taking it in each successive year: one, two, nine, nine, ten, twelve, sixteen, eighteen. These fig-

ures would certainly seem to indicate an increasing demand for the course, but, when informed by the Dean that in 1884–85 ten of sixteen postponed graduation and three of six who applied for the degree were rejected, we cannot be sure how far the increase in number may not be due to the survival of the *un*fittest, or how far membership in the fourth-year class may not be evidence of torpidity rather than of zeal. In Germany the recurrent student, after a certain time, acquires the title of "moss-head."

The school will have to decide a double question — whether a four years' course is in the abstract desirable, and whether it can afford to furnish such a course. There can be no doubt that a higher standard of medical education would enure to the welfare of the profession and of the public; we query however, how far the average American student will profit by a further development of laboratory, at the expense of clinical teaching. The present tendency is to supplement the work of the degree-giving schools by courses in the Post-Graduate Organizations and in the Polyclinics, and this is a tendency which, with the practical instincts of the country as well as the specialization of branches of medicine and surgery, is likely to increase rather than diminish. We believe we may venture on the statement that the usefulness of the present voluntary fourth year has not proved itself to be proportioned to the inconveniences which it entails.

In regard to the feasibility of a compulsory four years' course, the Dean, apparently guided by the figures, considers that the course having steadily gained in popularity since it was first established, it is not too much to hope if it were made compulsory, that the additional fees thus obtained would more than compensate for the loss of those students who would seek elsewhere a diploma which could be more easily gained. On the other hand, the President of the University seems more inclined to doubt the present feasibility of taking such a step. In his comments on the Professional Schools he says:

"The Medical Faculty has given abundant proof that it wishes to do the best work, rather than to attract a large number of students; but it feels obliged to measure carefully the risks to which the prolongation of the course might expose the present excellent School. During the past four years nine per cent. of the graduates of the School have taken the four-years' degree. To maintain the present salaries and establishment the School has, and must have, an income of $64,000. At present about $53,000, or more than four-fifths of the School's income, are derived from student's fees, and the tuition fee is higher than in any other department of the University. How great the reduction in the number of students would be, if four years' study were required for the degree, no one can tell; but a reduction of twenty per cent. seems a low estimate. Such a reduction from the school of the current year (1885–86) would give 211 students in attendance instead of 264. To provide against even this moderate reduction in the amount of student's fees an additional endowment of $210,000 would be needed."

Last year the school had a surplus of $2039.10, according to the treasurer's report. There has been a considerable increase in the expenditure for salaries, and a large reduction in other expenses incident to the occupancy of a new building. For the information of possible benefactors of the Harvard Medical School we may repeat a suggestion that a sum of $10,000 could be acceptably bestowed as a scholarship; a sum of $100,000 as the endowment of a professorship, and a sum of $500,000 for the establishment of a hospital connected with the school.

The Dental School is still struggling against many difficulties, and is still greatly hampered for want of funds. In spite of this it has bravely established an entrance examination, which, though of the simplest character, has had the effect of reducing the first class (1885–86) to a third of the average number in previous years. The debt of the School has been reduced, its equipment improved, and its instruction rendered more complete; but these results have only been attained at the expense of continued sacrifices on the part of the teachers.

The Veterinary School has largely increased both its receipts and expenditures. There is a small deficit in its current account which added to the cost of enlarging its hospital (over $7,000) makes its present debt about $7,500. The school urgently needs an endowment of $50,000. The Secretary reports that:

"As a teaching institution it may now perhaps be said, that with the addition of two or three veterinarians to its staff which it is hoped that its own graduates will supply the coming year, the School is at once ready to take and hold a leading place among institutions of the sort. But before it can be expected to fill the entire field of its usefulness — in the way of biological research, and in the discovery of means to prevent the extension of communicable and preventable diseases among animals, and from animals to mankind — some of its officers must be freed from the necessity of maintaining themselves by private practice."

THE MEDICAL EXAMINER SYSTEM.

WE beg to call our readers' attention to the report published on another page of this issue, of the Committee appointed by the Boston Society for Medical Improvement, to consider the operation of the medical examiner system in Massachusetts. In an editorial (December 17, 1885), commenting on the circumstances which gave rise to the appointment of this Committee, we reserved any extended discussion of the subject until the appearance of its report. The report speaks for itself, and should be read by those interested in the extension of the system to other States.

MEDICAL NOTES.

— Dr. Daniel G. Brinton, of Philadelphia, has been announced as laureate of the Société Américaine de France for 1885, and has been awarded the medal of the Society for his works on the aboriginal tongues of America.

— It appearing that Oliver Dean Root, M.D., 1854, died at New Orleans in 1863, in the discharge of his duties as an assistant-surgeon of the United States, it has been recently voted by the corporation of Harvard University, that his name be placed on the tablets in Memorial Hall.

— *L' Union Medicale*, January 9, 1886, contains the following recipe of Professor Bouchut for painful dentition in infancy.

R.—Cocaine Muriate	1 part.
Sodium borate	1 part.
Syrup of marshmallows	20 parts.
Syrup of poppies	10 parts.—M

S. Gently rub the gums with the syrup four times daily.

— A correspondent of *Science* writing from St. Petersburg says that a movement is under way for establishing a female medical school in that city. A few years ago, ladies received instruction at one of the military hospitals, and some of the graduates are practising with honor. Later this instruction ceased, as the minister of war would not continue the subsidy given before, nor allow the use of the buildings. Now the matter is under discussion in the duma (city assembly) of St. Petersburg. There are also private subscriptions for this end, and lately the great importance of female physicians is especially insisted upon for central Asia and eastern Transcaucasia, that is, provinces where the great mass of the people are Mohammedans.

— A correspondent of the *Therapeutic Gazette*, writing from Berlin, says: "In the children's department at the University Hospital of Berlin, there is a collection of some three hundred nursing-bottles of various sizes and shapes, all provided with a long rubber tube, which encloses a piece of litmus-paper colored red. No commentary is needed. It is quite clear that the presence of lactic acid in the tube suffices to explain many obscure disorders of the alimentary tract for which the physicians are often at a loss to find a satisfactory explanation. The writer has repeatedly witnessed that mothers returned to the Polyclinic and testified to the rapid recovery of their children after withdrawal of the patent nursing-bottles. In one instance, the tube was found to be made of lead, and to have given rise to serious constitutional symptoms in addition to the gastric irritation. In view of these facts, the attending physicians of the Polyclinic make it an invariable rule to inquire as to the nature of the nursing-bottle in every child presented for treatment on account of digestive disorders.

BOSTON.

— Some ten days ago a schooner-load of Maine lobsters were inspected at a Boston wharf. As they were barely within the required length — ten and a half inches — they were allowed to be disposed of. As three other schooners were on the way to, or about sailing for this city at the time, similarly loaded, and as neither of them arrived, the Deputy Fish Commissioner had reason to believe that their skippers had got telegraphic notice of the rigid measures taken here to prevent the disposal of short lobsters. His surmises proved correct, for last week a despatch from Portland announced several seizures — one of more than three thousand of the immature shell-fish — the dealers paying hundreds of dollars in fines. The commissioners of Maine and Massachusetts are working together in the matter. It is said that one year's growth beyond the law's limit nearly doubles the size of the lobster. The penalty in Maine is the fine of $1 for each specimen seized; in Massachusetts it is $5.

— At the request of the President of Harvard University, Prof. R. T. Edes delivered an address last Tuesday evening before the Cambridge students on the subject of medicine as a profession. Rev. Philip Brooks and Judge Oliver Wendell Holmes, Jr., had previously spoken about the ministry and the law.

NEW YORK.

— The commencement exercises of the Buffalo Medical College were held February 23, when diplomas were conferred upon a class of forty-three. The address to the graduates was made by the President of Cornell University, Mr. C. K. Adams.

— At a meeting of the Medico-Legal Society held February 18, the Hon. Erastus Brooks, of the State Board of Health, read a paper on "What the State Owes to the People, and What the People Owe to the State," in the course of which he said that the health of the people was the first duty of the State, and, although commerce and quarantine were perpetual enemies, that the State should protect the people from such diseases as cholera, at whatever cost to commerce. The expenditure of money for sanitary purposes was undoubtedly an actual pecuniary benefit to the country, as each life saved by precautionary measures was computed to be worth a certain sum of money, in Great Britain, each life being computed to be worth $795. The people, on the other hand, owed sympathy and co-operation to the State in return for protection. Health at home means health everywhere.

— A coroner's inquest was held February 26th, in the case of Thomas E. Roche, who died in the German Hospital on the 17th ult., from the effects of chloroform administered for anæsthetic purposes during a surgical operation. A number of physicians were present as spectators, and considerable medical testimony was taken in regard to the action of chloroform on the human system under different circumstances, and in varying conditions of health. The question at issue was, whether the hospital surgeons had acted properly in administering chloroform to the patient when death had been caused by it. The jury, which consisted of physicians, brought in a verdict declaring that Roche came to his death by paralysis of the heart while under the influence of chloroform, the patient being in a depressed state of health from malignant disease of the cervical glands. Their report further said: "Inasmuch as the chloroform was of good quality, and administered by a competent physician, in a competent manner, and with the consent of the patient, no blame can be attached to the hospital authorities or the physicians in charge."

— At a meeting of the New York County Medical Society, held February 22d, Dr. John C. Peters read a paper on "The Present and Future Water-Supply of the City," in the course of which he gave a description of the proposed Quaker Bridge dam. The Committee

on Hygiene, of which Dr. Peters is Chairman, are unanimously in favor of this great work, because of the immensely increased supply which it will afford. The following are the conclusions at which the Committee have arrived: "That the Quaker Bridge dam is unobjectionable from a hygienic point of view; that the Sodom dam should be constructed at once, in order to furnish a quick water-supply; that means should be taken to improve the quality of the water, including the construction of a system of sewers to receive the sewage of the Croton water-shed; and that a safety strip of land, a quarter of a mile wide, to preserve the purity of the Croton River, should be purchased." Dr. Peters said that there was no doubt that the Croton supply at its source, is the purest furnished to any city, and he thought that by proper protection against sewerage, the water-supply of New York might be endorsed the best in the world.

— The third annual report of the New York Skin and Cancer Hospital shows that marked and satisfactory progress has been made in the development of the institution during the past year. Besides the City Hospital in East 34th Street, where, since its establishment three years ago, more than three thousand cases have been treated in the different departments, a country branch of cottage pavilions is now conducted at Fordham Heights, near High Bridge, and within the city limits. The latter property contains about sixteen acres of land on high ground, commanding a view both of the Hudson River and Long Island Sound, and is to be made the leading pattern of the hospital system. There are at present two cottages, the first of a series which, as the work develops, it is to erect on the property. The pavilions may be built by individual donors and named by them, and they will all be administered from a central building, which is already prepared for the purpose. About 140 of the 1,064 cases treated at the City Hospital during the last year, were of cancer. The cost of maintaining the Hospital for the year was $11,471, of which amount $3,612 was contributed from the Ladies' Charity Fund for the payment of the board, in whole or in part, of in-patients in indigent circumstances.

Miscellany.

AN ASSOCIATION OF PHYSICIANS AND PATHOLOGISTS.

A LIMITED number of copies of the following circular have been sent out:

PHILADELPHIA, February 15, 1886.

DEAR DOCTOR: — In view of the undoubted advances which have everywhere followed in the different departments of medicine the formation of special societies devoted to their interests, and in view of the fact that each one of the natural divisions of medicine, except those of general medicine and pathology, is represented in this country by a special society, it has occurred to some members of the profession that a similar Association of Physicians and Pathologists is desirable.

Accordingly, two preliminary meetings were held in New York City on October 10th and December 29th, respectively, at which the matter was thoroughly discussed, and, after a general expression of opinion, it was finally decided: —

1. To form an Association of Physicians and Pathologists, of which the number of members shall be limited to one hundred (100).

2. To hold an annual meeting in the month of June, in the city of Washington.

3. To hold the first meeting on Thursday and Friday, the 16th and 17th of June, 1886.

The undersigned were appointed a Committee to notify those who were selected as original members, and we accordingly have the honor to cordially invite you to join this Association, and to take part in the proceedings of the first meeting in Washington, as above stated.

FRANCIS MINOT, Boston (Chairman of the Committee).
WILLIAM H. DRAPER, New York City.
WILLIAM PEPPER, Philadelphia.
R. PALMER HOWARD, Montreal, Canada.
ALFRED L. LOOMIS, New York City.
WILLIAM H. WELCH, Baltimore, Md.
FRANCIS DELAFIELD, New York City.
JAMES TYSON, 1506 Spruce St., Phila., Sec'y of the Com.

DIFFERENT PHYSIOLOGICAL SENSES FOR HEAT AND COLD.

IN connection with the researches of Prof. Hall and Dr. Donaldson of Johns Hopkins University, recently given in *Mind*, *Science* (Feb. 12) summarizes some interesting observations made by Mr. A. Herzen and published in the *Archiv für physiologie*[1] showing that the physiological sense of cold is different from that of heat. His attention was first directed to the subject by a simple incident, the verification of which may be readily made by any observer. Awakening one night he found one of his arms lying without the bed-clothes, "asleep." In touching it with the other hand, he perceived a distinct sensibility to warmth, while that of touch was gone. Bringing his arm, however, in contact with cold substances, he was surprised to find no sensation.

Pursuing the subject further, he produced artificially this condition of semi-paralysis by the compression of nerve-trunks, and by experimentation discovered that the sensibility to cold remained a short time after tactile impressions had disappeared, and that the sensibility to warmth remained much longer, but not quite as long as the power of detecting pain; also that the impressions of warmth require more time for transmission to the brain than those of cold, bearing, in fact, the same relations to each other as the sense of pain does to that of cold. These results were further supplemented by observations on a person with complete and permanent tactile anæsthesia of the legs, but in whom the sense of pain remained normal. The subject was able to distinguish quite well the differences in temperature between 150° F. and 81° F., which was the normal temperature of the surface of the leg. Below the latter temperature, however, no sensation was produced, not even by the contact of ice on the inner side of the thigh. Other cases showed the same peculiarities, in which, with the disappear-

[1] Ueber die spaltung des temperatursinnes in zwei gesonderte sinne, xxxviii. p. 93, December, 1885.

ance of tactile sensibility, the susceptibility to cold was also lost, while that to warmth yet remained.

Vivisection experiments upon cats and dogs lead the author to the following conclusions: 1. The so-called sense of heat and cold is composed in reality of two senses quite independent both anatomically and physiologically; 2. Observations on healthy and diseased subjects show that the sensations of heat and cold are transmitted through different nerves, by different routes, and to different brain-centres; 3. The gyrus sigmoideus contains the centre (or the centripetal branches leading thereto) of touch and cold perceptions; 4. These sense-perceptions are transmitted through the posterior columns of the spinal cord, while those of the senses of pain and warmth are conveyed through the gray substance.

Although the senses of cold and touch on the one hand, and heat and pain on the other, seem to be more nearly related, yet one cannot unite them, or consider the different perceptibilities of heat and cold mere modifications of those of touch and heat. The researches of Blix and others have demonstrated the existence of separated, isolated, irregularly distributed points upon the body, of which one may be only sensible to cold, another to warmth, and a third to touch. Doubtless most persons have noticed the different degrees of susceptibility of different parts of the body to heat and cold: the author points out striking examples of such.

AN INTERNATIONAL COMMITTEE ON A UNIFORM CLASSIFICATION OF MENTAL DISEASES.

THE *Société de Médecine Mentale*, of Belgium, in a paper by Professor Lefebvre, laid before the International Congress of Psychiatry and Neurology, which met at Antwerp in September, 1885, an address, inviting their attention to the subjects of the prevalence, causes, duration, and termination of insanity. Dr. Ramaer spoke at length on the classification of mental diseases. Both essays gave rise to free discussion, and an international committee was appointed to report at a future meeting on the classification of mental diseases, each member of the committee being expected to confer with the scientific society of his own country. There were eleven gentlemen appointed representing England, Germany, Austria, France, the Scandinavian countries, Russia, Holland, South America, North America, Switzerland, and Italy. The intention seemed to be to make the uniform classification of mental diseases a basis for further international statistics on insanity.

The New York Medico-Legal Society has appointed to assist the North American member of the international committee, Mr. Clark Bell, two committees, one of three, consisting of Dr. Pliny Earle, Dr. Alice Bennett, and Dr. Charles H. Hughes, and another of seven, composed of Dr. A. E. McDonald, Mr. Clark Bell, Dr. Jennie McCowen, Dr. Ira Russell, Dr. Stephen Smith, Dr. W. R. Birdsall, and Dr. T. H. Kellogg.

REPORTED MORTALITY FOR THE WEEK ENDING FEBRUARY 20, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Typhoid Fever.	Diphtheria and Croup.	Scarlet Fever.
New York	1,340,114	674	236	16.20	14.85	.15	8.55	1.20
Philadelphia	927,995	401	142	11.28	11.28	2.64	6.24	.96
Brooklyn	644,526	283	110	16.45	15.75	1.35	7.35	3.85
Chicago	632,100	—	—	—	—	—	—	—
Boston	390,406	167	51	11.21	18.29	—	6.49	1.77
Baltimore	408,520	161	57	9.30	14.88	.62	4.34	—
St. Louis	400,000	—	—	—	—	—	—	—
Cincinnati	272,400	—	—	—	—	—	—	—
New Orleans	234,000	147	31	8.16	13.60	.68	4.08	.68
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	—	—	—	—	—	—	—
Pittsburgh	180,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	—	—	—	—	—	—	—
New Haven	62,882	—	—	—	—	—	—	—
Nashville	52,286	17	6	5.88	29.40	—	—	—
Charleston	54,400	29	7	3.45	3.45	—	—	—
Worcester	68,383	19	6	5.26	22.04	—	5.26	—
Lowell	64,051	15	1	20.00	13.33	20.00	—	—
Cambridge	59,660	24	8	12.48	33.28	—	12.48	—
Fall River	56,863	18	11	11.11	16.66	—	—	—
Lynn	45,861	13	—	7.69	24.07	—	7.69	—
Lawrence	38,825	14	3	7.14	14.28	7.14	—	—
Springfield	37,577	12	4	25.00	25.00	—	16.66	—
New Bedford	33,393	14	5	7.14	14.28	7.14	—	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	11	4	18.18	27.27	—	18.18	—
Holyoke	27,894	13	6	15.38	7.69	—	7.69	7.69
Chelsea	25,709	9	6	11.11	27.27	—	—	—
Taunton	23,674	6	—	33.33	—	—	—	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	7	—	—	18.56	—	—	—
Brockton	20,783	—	—	—	—	—	—	—
Newton	19,759	4	3	—	—	—	—	—
Malden	16,407	5	1	—	20.00	—	—	—
Fitchburg	15,375	4	1	—	—	—	—	—
Waltham	14,609	2	—	50.00	—	—	—	—
Newburyport	13,716	5	1	40.00	20.00	20.00	—	—
Northampton	12,896	6	1	—	—	—	—	—
92 Massachusetts Towns	—	37	6	10.80	24.30	2.70	5.40	2.70

Deaths reported 2,117: under five years of age 707; principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 280, consumption 389, lung diseases 336, diphtheria and croup 142, typhoid fever 23, scarlet fever 28, whooping-cough 26, erysipelas 14, malarial fever 13, diarrhœal diseases 12, cerebro-spinal meningitis, nine, puerperal fever seven, measles six. From whooping-cough, New York 18, Brooklyn five, Philadelphia, Baltimore, and Chelsea one each. From erysipelas, New York four, Philadelphia and Boston three each, Brooklyn and Taunton two each. From malarial fever, New York seven, Brooklyn three, Baltimore, Charleston and Springfield one each. From diarrhœal diseases, New York six, New Orleans three, Boston two, Brooklyn one. From cerebro-spinal meningitis, New York four, Fall River two, Philadelphia, Baltimore and New Orleans one each. From New York two, Brooklyn, Baltimore, Charleston, Waltham and Newburyport one each. From measles Baltimore three, New York, Philadelphia and Holyoke one each.

In 109 cities and towns of Massachusetts, with a population of 1,250,326 (population of the State 1,941,465), the total death-rate for the week was 16.14 against 14.25 and 16.59 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending February 6th the death-rate was 22.2. Deaths reported 3,872: infants under one year of age 846; acute diseases of the respiratory organs (London) 479, whooping-cough 175, measles 76, scarlet fever 35, diarrhœa 35, fever 30, diphtheria 23, small-pox (Birkenhead and Liverpool one each) two.

The death-rates ranged from 13.4 in Brighton to 27.9 in Portsmouth; Birkenhead 20.8; Birmingham 19.9; Bradford 18.8; Hull 18.3; Leeds 21.9; Leicester 19.1; Liverpool 24.7; London 22.4; Manchester 27.1; Nottingham 24.9; Sheffield 21.3; Sunderland 24.6.

In Edinburgh 18.0; Dublin 33.7; Glasgow 26.2.

For the week ending February 6th in the Swiss towns, there were 34 deaths from consumption, lung diseases 30, diarrhœal diseases 10, diphtheria and croup seven, small-pox two, whooping-cough two, measles, scarlet fever and typhus each one.

The death-rates were: at Zurich 11.5; Geneva 20.2; Basle 26.6; Berne 15.0.

The meteorological record for week ending February 20, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps: —

Week ending Saturday, Feb. 20, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday, ..14	29.811	44.6	52.1	38.4	82.0	93.0	81.6	85.3	W.	S.W.	S.W.	20	12	15	C.	O.	C.	—	—
Monday, ..15	29.867	48.5	53.0	40.4	82.0	90.0	72.0	81.3	W.	S.	W.	2	12	24	O.	F.	C.	—	—
Tuesday, .16	30.140	30.8	52.4	23.0	72.0	48.0	46.0	55.3	W.	W.	N.W.	12	20	24	C.	F.	C.	—	—
Wednes, .17	30.283	24.2	30.1	17.0	62.0	42.0	72.0	58.7	W.	S.W.	S.W.	6	11	16	C.	F.	C.	—	—
Thursday, 18	30.114	34.4	43.0	23.2	68.0	33.0	53.0	51.3	W.	W.	N.W.	12	17	1	C.	O.	O.	—	—
Friday, ...19	29.758	40.6	50.1	29.5	73.0	52.0	100.0	75.0	S.W.	S.	S.E.	10	23	1	C.	O.	R.	—	—
Saturday, .20	29.388	27.3	41.5	15.9	81.0	61.0	67.0	69.7	W.	N.W.	N.W.	14	28	30	C.	O.	C.	11.0	0.52
Mean, the Week.	29.909	35.8	43.2	26.8				68.1											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING FEBRUARY 27, 1886.

CLARK, J. H., surgeon. Detached from the "Hartford," on the reporting of his relief, Medical Inspector Bradley.

BRADLEY, MICHAEL, medical inspector. Ordered by steamer of March 10th, from New York to Aspinwall, thence to Panama and to the "Hartford," as the relief of Surgeon J. H. Clark.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE FOR THE TWO WEEKS ENDING FEBRUARY 20, 1886.

AUSTIN, H. W., surgeon. To proceed to Richford, Vt., on special duty, February 8, 1886.

URQUHART, F. M., passed assistant surgeon. To proceed to Richmond, Va., for temporary duty, February 16, 1886.

SOCIETY NOTICES.

MASSACHUSETTS MEDICAL SOCIETY, SUFFOLK DISTRICT. — The Section for Clinical Medicine, Pathology and Hygiene will meet at 19 Boylston Place, on Wednesday, March 10th, at 7.45 o'clock. Papers: Dr. H. O. Marcy, "Photo-Micrographs of Bacteria; Projected upon the Screen." Dr. W. N. Bullard, "Chronic Tea-Poisoning."

F. I. KNIGHT, M.D., *Chairman.*
ALBERT N. BLODGETT, *Secretary*, 138 Boylston St.

PROVIDENCE MEDICAL ASSOCIATION. — The Annual Meeting of the Providence Medical Association was held in the Medical Library, on Monday evening, March 1st, and officers for the ensuing year elected as follows: President, J. W. Mitchell; Vice-President, C. H. Leonard; Secretary, Herbert Terry; Treasurer, G. T. Swarts; Standing Committee, H. G. Miller, G. D. Hersey, G. W. Porter, R. H. Carver, W. R. White; Committee on the Reading Room, G. D. Hersey, G. W. Porter, Eugene Kingman.

DEATH.

Died in Lowell, Mass., February 25, 1886, Joseph Haven Smith, M.D., M.M.S.S., aged eighty years.

BOOKS AND PAMPHLETS RECEIVED.

The Methods of Bacteriological Investigations. By Dr. Ferdinand Hueppe. Translated by Hermann M. Biggs, M.D. Illustrated by Thirty-one Wood-cuts. New York: D. Appleton & Co. 1886.

Transactions of the State Medical Society of Wisconsin, 1885.

Thirty-Eighth Annual Report of the Trustees of the Massachusetts School for the Feeble Minded at South Boston. For the Year ending September 30, 1885. (Public Document, No. 28.)

Eleventh Annual Report of the Boston Womans' Christian Temperance Union. For the Year ending October, 1885. Boston, 1886.

Mutual Protection against Blackmail. By E. J. Doering, M.D., of Chicago. (Reprinted from Journal of American Medical Association, January 30, 1886.)

The Climate of South Central Florida, Especially for the Pulmonary Diseases for Women and Children. By J. M. Keating, M.D., of Philadelphia. (Reprinted from the New York Medical Journal for January 23, 1886.)

Priced and Illustrated Catalogue of Ophthalmological Instruments, Spectacles and Eye Glasses. By James W. Queen & Co. Philadelphia.

Clinical Cases from Dr. Sée's Wards. By Oswald Browne M.B., and D'Arcy Power, M.B. A Case of Locomotor Ataxy, Associated with Perforating Ulcer of the Foot. (Reprint from St. Bartholomew's Hospital Reports, Vol. xviii.)

Three Specimens of Encysted Hernia, etc. By D'Arcy Power. (Reprint from Transactions of the Pathological Society of London for 1885.)

A New Operation for the Alleviation of Persistent Deafness. By Wm. H. Bates, M.D. New York. (Reprinted from Medical Record, January 23, 1886.)

Puerperal Pyrexia. By George P. Andrews, M.D. (Reprint from American Lancet, January, 1886.)

The Treatment of Vomiting with Large Doses of Oxalate of Cerium. By W. R. Chittick, M.D. (Reprint from Detroit Lancet, September, 1885.)

Practical Human Anatomy. A Working Guide for Students of Medicine and a Ready Reference for Surgeons and Physicians. By Faneuil D. Weisse, M.D. Illustrated by 222 lettered plates containing 321 figures. New York: Wm. Wood & Co. 1886.

Original Articles.

TWO CASES OF CEREBRAL TUMOR WITH AUTOPSY.[1]

BY E. B. LANE, M.D., OF BOSTON.

James M., thirty-seven years old, was admitted to the Lunatic Hospital August 3, 1885. Married. Policeman. Was born in Ireland. Very little is known of his family, since none of his relatives are in this country. Used alcohol daily, would occasionally drink more than he ought, but never incapacitated himself for duty on the Boston police force.

Is not known to have had rheumatism nor any severe illness previous to last January. No specific history could be obtained.

In January, 1885, fell on the street, becoming unconscious and remaining so for half an hour. Became conscious soon after reaching home, but for more than a week his speech was thick and he swallowed with difficulty. No other paralysis was known. Went on duty a month later. Then his speech was much improved, but not quite clear. Continued to perform his duties as usual until May, when he had a second attack, this time in the house. Fell but did not become unconscious. He got up unassisted and sat down. It was found that his right side was affected, the hand and leg of that side being weak but not completely paralyzed. He was able to walk. His speech was not affected nor his ability to swallow impaired. No facial paralysis was noticed. He had no headache either before nor after this attack. Slept well and ate well. Regained the use of his limbs to a certain extent but could not light a match with his right hand, could write, but his hand was tremulous. Returned to patrol duty in two weeks and remained on duty until the middle of July, when he had an attack of vertigo while on the street. Was sent home in a horse-car. Felt ill and stayed at home until admitted to the hospital a fortnight later. After the second attack (in May) became irritable, and memory failed somewhat. Became suspicious that men talked with his wife, and that she had had visitors.

During the last two weeks at home his mental condition degenerated rapidly. Memory grew weaker. He was anxious to go to the Station-house and would become angry, though not violent, when restrained. Delusions of suspicion developed. Thought there were men concealed in the house and he procured a pistol and billy to defend his wife.

On admission, was seen to be a well-developed man of medium size. Too dull to respond to questions. Was able to get about and uses his hands fairly well. Right eyelid drooped. Pupils were equal, tongue protruded to right (probably accidental, as it afterward came out straight) not retracted. Eats when fed but will not feed himself. Will not stay in bed and soils the floor. Pulse 60. Patellæ reflex present. No enlarged glands. Denied syphilis. Eyes examined. Nothing unusual seen beyond a fulness of the veins of the fundus.

During the first week at the hospital, condition did not change much. Would answer simple questions. Had considerable difficulty in swallowing. About this time he became comatose with a temperature of 102.6 and respirations 44. Left pupil dilated. He rallied to his former condition in the house. He then gradually improved mentally[2] until at the end of the second week he knew his wife and conversed with her and signed some documents. But at no time did he realize where he was nor avoid wetting his bed. When asked to put out his tongue would do so after waiting nearly a minute. Memory was very weak, would not know his room but would wander about, upsetting furniture, etc. After being in hospital a month was able to be dressed, saw an old acquaintance and chatted with him. Told him that he had been on his beat that day. Difficulty in swallowing almost entirely disappeared and he ate heartily. At this time patellar reflex was found to be excessive and ankle clonus present. Said he was "first-rate." About the middle of September (six weeks after admission) rapidly grew dull, swallowed liquid with difficulty. In a few days febrile reaction appeared. Was very obstinate, resisting everything done for him, fumbled the bed clothes and handled his genitals constantly. Temperature varied from 99 to 103. Respiration persisted rapid, gradually rising from 30 to 50. Was very helpless, could scarcely swallow and was so dull he would not speak, and in eighteen days from the onset of the stuporous condition died.

Autopsy twenty hours after death by Dr. Gannett.

Ratio of head to body and cranium to face normal.

Calvaria thin. The dura everywhere translucent and the sinuses contained dark fluid blood. The pia slightly opaque about the convexities. Its meshes contained a small amount of clear fluid. The brain filled the cavity of the skull and weighed 1,402 grms. The vessels at the base and in the fissure of Sylvius showed nothing remarkable. The pia anterior to the optic commissure showed a slight snuff-colored appearance and on section showed several opaque grayish-yellow globular nodules varying from one to three mm. in diameter and each surrounded by a grayish-red translucent tissue for a distance of three to four mm. These were directly continuous with the pia. On the under surface of the right frontal lobe, adjacent to the pia was a nodule the size and shape of an almond, except not quite so long, having an opaque grayish-yellow centre, the size of a large pea and surrounded by a reddish-gray translucent material like that already described.

In the lowest portion of the left temporal lobe at anterior extremity were several yellowish nodules about 2 mm. in diameter, surrounded by a reddish-gray translucent tissue. At the junction of the anterior and middle thirds of corpus callosum and on the adjoining convolution in the anterior fissure were a series of yellow nodules of two or three mm. in diameter arranged antero-posteriorly forming a line about four cm. in length. These were in turn surrounded by a similar reddish-gray translucent material.

The lateral and fourth ventricles showed in the ependyma numerous fine granules presenting a warty appearance. The floor of the left lateral ventricle over the basal ganglia showed two depressions about twenty mm. in diameter.

On section in the left *nucleus caudatus* and in the left *thalamus opticus* were cavities the size of small filberts, formed by a meshwork of fine lines and containing a snuff-brown fluid. In the posterior portion of the right *thalamus opticus* were two cavities each about

[1] Read before the Section for Clinical Medicine, Pathology, and Hygiene, of the Suffolk District Medical Society, January 13, 1886.

[2] His mental condition was that of contentment. Speech was that of a general paralytic. No delusions of grandeur expressed.

the size of filbert meats and presenting the same characteristics as those described.

The section of the hemispheres, pons, medulla and cerebellum showed no appearances worthy of special note. The pia everywhere readily separated from the brain substance. Heart and pericardium showed nothing worthy of note. Examination of the other organs showed little of interest beyond diffuse bronchitis and tracheitis, chronic pleurisy and a nodule in the mesentry. There was a scar on the penis.

Diagnosis of lesions found in the brain. Chronic lepto-meningitis and œdema of the pia, each to a slight degree only. Multiple gummata. So-called "apoplectic cysts" of the basal ganglia. Chronic ependymitis.

Mary J., sixty-four years old, of American parentage, a cloak-room attendant, was admitted to the Boston Lunatic Hospital, September 3, 1885. With her was sent the statement that she had been hemiplegic for nine days, that she was at times incoherent and confused, was helpless and needed hospital care. After her death the following history was obtained.

Family history unknown. Seventeen months ago her husband died and his loss caused the patient much grief and worriment. Since death of husband she has been in very straitened circumstances.

For the past six months has complained of severe headache and loss of memory, and when alone in her room would continually talk aloud to herself. Appetite was good. When not mindful of her loss was as cheerful as ever. Continued to attend to her duties in a cloak room, and to her household duties until eight or nine days before admission. No serious sickness was suspected until she was found one morning to have right sided hemiplegia, to be almost speechless as well as perfectly helpless, having been apparently as well as usual the day before.

On admission to the hospital was seen to be a very large well nourished woman. She was helpless, having right sided hemiplegia. Was very dull, but would answer a few simple questions.

For four days after admission was dull and gave unintelligible answers. Took a small amount of liquid food when it was placed in her mouth. Could not eat, and swallowed liquids with difficulty. Was noticed to call things by wrong names.

At the end of this time she became brighter, was not quite as helpless, could swallow a little better and could speak more distinctly. It was now seen that she was partially amnesic, more accurately speaking, she was almost totally unable to recall names. It was usually impossible for her to name objects. She could not even recall her husband's name. Was aware of her defect and seemed much annoyed by it. When asked to name a bunch of keys she said "I cannot," then made an effort and pronounced "boots" and laughed at her failure. Was then told to say "keys." She made another effort and said "that is right, skewers," and laughed again. But on being prompted a second time she pronounced "keys" properly.

Physical examination showed the right sided hemiplegia to persist, mouth was drawn to the left, tongue was protruded straight, however. Left eye was turned in, showing probable paralysis of the sixth nerve on that side from pressure. Pupils were even. Plantar reflex present. Ophthalmoscopic examination was impossible. Remained in this condition, conscious, but dull and listless for two days. Did not ask where she was nor seem disturbed by her new surroundings. She continually complained of thirst. She became more dull on the ninth day, and on the morning of the tenth was found comatose. Had been vomiting. Made automatic movement with left hand only. Pupils were much contracted and pulse was 96, temperature 101.5 (P.M.) Coma lasted only twenty-four hours and during the following day she gradually grew brighter and was as well as before the attack. Condition of side, however, did not improve.

She gradually grew more intelligent and for a short time knew where she was, but probably did not realize the significance of it. Remarked that she must be a difficult patient to care for she was so heavy and helpless. She became more restless and would kick the bedclothes off with left leg. Could use both hands a little. Required to be watched or she would lie uncovered. Gave no reason for it. Was at this time asked if she were hungry and she replied "yes," was asked if she were thirsty and she said "yes," and to test the truth of her statement was given bread and milk. Declined it saying she wanted something "brighter." She seemed aware she had not said what she meant. When asked if she would prefer water seemed pleased and assented. At another time asked for "fire," and then shook her head. When asked if she meant water said "yes, fire," and laughed at her blunder. When "water" was slowly pronounced she repeated "w-water."

Memory was much impaired, she could not remember whether she had eaten two hours after doing so.

On the seventeenth day, and a week after the brief period of coma, the patient grew more dull and helpless. Would not swallow liquids and gradually became comatose, sweating profusely and occasionally vomiting a greenish watery fluid. Pulse was strong, but uneven and rapid. Respiration was labored and noisy, tracheal râles persisting until death. She continued in this coma five days, death being hourly expected. Died on twenty-third day.

Autopsy was made twenty-two hours after death by Dr. Gannett.

Nothing unusual was observed about the calvaria or dura. Sinuses contained soft coagula. The convolutions of the brain flattened and sulci obliterated: surface of pia dry.

The brain completely filled the cavity of the skull and weighed 1,550 grms. At a point in the left fissure of Sylvius where the middle cerebral gives off its numerous branches, was a dilatation the size of a pea.

At a corresponding position in the right side was a parietal dilatation the size of a pin's head.

In the basilar artery was an opaque yellow patch in the intima about three mm. in diameter. The right lateral and fourth ventricles showed nothing remarkable.

The floor of the posterior portion of the left lateral ventricle was elevated, rounded and quite tense to the finger. On section of the hemispheres there was found in the white matter of the left hemisphere posteriorly a rather firm opaque grayish yellow nodule, the size and shape of a medium sized peach, showing on section here and there spaces filled with a thin cream-like fluid. The brain substance on the periphery of the nodule for a distance outward of about four mm., showed to a very slight degree a punctate appearance. The white matter lying just beneath the nodule was of soft consistency and grayish-white color. The white matter in general was rather pale, surface of usual degree of moisture, the cortex not remarkable.

Section of the basal ganglia, pons, medulla, and cerebellum showed no appearances worthy of special note. . . .

Examination of the other organs revealed nothing of interest beyond a large cyst occupying the upper third of the right kidney, pelvic calculi, and two firm gray nodules the size of a pea in the wall of the uterus. A pedunculated polypoid tumor in the cavity of uterus.

Microscopic examination of the tumor has been begun by Dr. Gannett, but owing to the hardening not being yet completed he is unable to give a definite opinion. He has kindly consented to offer the *probable* diagnosis of *vascular glio-sarcoma.*

Summary. In the first case, we have a young man with cerebral syphilis resulting in paretic dementia. From the onset of mental derangement the course of the disease was unusually rapid. The hemiplegia and the mental condition of hebetude and delusions cannot be said to follow the presence of the gummatous tumors as the hæmorrhage in the candate nucleus and the lepto meningitis are the lesions more commonly associated with such symptoms. No especial set of symptoms can be referred to any of the tumors.

The second case was remarkable in the fact that a large tumor must have been gradually developing in the mass of the cerebrum causing for a long time only minor symptoms and finally causing such severe and fatal symptoms. A woman able to do her daily work, neither general nor mental health being sufficiently impaired to attract attention, suddenly becomes comatose and hemiplegic. She recovers consciousness and suffers two more relapses of coma and dies. During the intervals of consciousness she is seen to be suffering from a partial amnesia. Amnesia (oftener partial than complete) has been found to be associated in cases reported by Werwicks and others, with lesions in the occipital lobe. The question might arise as to the possibility of there being an aneurismed dilatation causing the symptoms. This is hardly tenable when we consider the great extent of the pressure required to cause both hemiplegia and amnesia. The vascular changes in the tumor must explain the suddenness of symptoms.

Ferrier, Pitres, Ross, Gull, Rodocalat, March, Lester, et al., report tumors or abscesses of occipital lobe. Werwicks, Dreschfeld, Hissenberg "aphasia" following tumor in occipital lobe.

ENLARGED CERVICAL GLANDS.[1]

BY HERMAN F. VICKERY, M. D., OF BOSTON.

THE object of this paper is to arrive at definite and well-grounded opinions as to the treatment of what is sometimes called "scrofulous neck." These cases present enlarged lymphatic glands in the neck, causing little inflammatory disturbance or pain as a rule, but very chronic and tending to break down into cheesy pus. Exceptionally, complete resolution takes place; more often, fibrosis or calcification; but, in the great majority of cases, sooner or later, arises an abscess which discharges through a sinus, the sinus emitting pus more or less constantly until the entire gland has been thus expelled. Although there is not much suffering, yet the tediousness of these cases, which may persist for years, the unsightly appearances occasioned both by the glands and sinuses and by the scars they leave behind, and above all certain dangers hereafter to be more fully discussed, render it desirable that the best possible treatment should be employed for them.

We find the disease prone to attack children much rather than adults, although even old age is not absolutely exempt. All debilitating, hereditary, or hygienic conditions predispose to it: its chief victims therefore, are the children of the poor and ignorant, or of consumptive or syphilitic parents. Overcrowding, lack of sunlight, insufficient and improper food, exposure to cold and wet, all promote its occurrence. Out of one hundred and seventy-two children who entered a workhouse in Kent, England, healthy, all but three came to have enlarged glands. The exciting causes are very numerous, comprising such lesions of the mucous membranes as ozæna, stomatitis, tonsillitis, pharyngitis, laryngitis, otitis, and conjunctivitis. It may follow chronic eczematous processes in the scalp or face. It frequently arises after scarlet fever and measles, and may be excited by dentition or by trauma. It is characteristic of this form of adenitis that, although supposed to be invariably secondary, its extent and persistence frequently far exceed those of the primary lesion. It is often impossible to determine what did give rise to the glandular disorder.

In early stages, the enlarged glands are freely movable upon the underlying tissues and underneath the skin. They are smooth in surface, of uniform density, and more or less spherical. It is seldom that a solitary gland is swollen: usually two or more are affected. The affection is not essentially symmetrical: it may be bilateral. After continuing a variable length of time with but little change, the gland may, as has been said, be absorbed. Such a result is especially likely at puberty. The rule, however, is that the tissues undergo what is called a "cheesy" degeneration. This can usually be recognized during life by the nodular surface of the gland, its presenting spots of softening or fluctuation, and its adherence to the skin as well as to neighboring glands, if they also are enlarged. A rare termination for this cheesy transformation is spontaneous desiccation and calcification. Almost always there is gradually increasing suppuration, abscess formation, and external discharge through the adherent skin. About the histological changes, I wish merely to state what seems essential to forming a just view of the dangers and treatment of the disease. Schüppel of Tübingen published in 1871 a book on "Tuberculosis of the Lymph-Glands," in which he shows that a large proportion of what are called "scrofulous" glands — although not all — present the microscopic characteristics of tubercle, that is, one or more giant cells surrounded by epithelioid cells and lymph corpuscles, the whole supported by a fine recticulum. Klebs produced, by the inoculation of tuberculous matter, a disease of the lymph glands exactly like scrofulous infiltration. Koch reported, in 1884, that he had examined twenty-one cases of tuberculous glands (meaning such glands as presented epithelioid cells, grouped in foci, and accompanied by more or less numerous giant cells), and that he invariably found bacilli tuberculosis in them. There were indeed other enlarged glands, in part softened and dotted with minute abscesses, but with no epithelioid nor giant cells, in which he found no bacilli. From the submaxillary gland of a scrofulous boy, he obtained pure cultures of the specific tuberculous bacilli. Dr. Hippolyte Martin also produced a series of

[1] Read before the section for Clinical Medicine, Pathology, and Hygiene, of the Suffolk District Medical Society, January 13, 1886.

cases of general tuberculosis in guinea-pigs, starting from the inoculation of pus taken *post-mortem* from the "firmly encased submaxilary gland of a child, who had died of measles and broncho-pneumonia, without any trace of tubercular disease, but with well-marked clinical characteristics of scrofula." It may therefore be affirmed of enlarged cervical glands, such as are ordinarily called scrofulous, that certainly a large proportion, and probably a large majority, are really tuberculous.

As already stated, the existence of scrofulous lymphatic glands usually implies that the general health has been impaired. The local disturbance is seldom very annoying. The condition is often discovered by accident. Occasionally there is some pain and tenderness, particularly if suppuration is taking place. By its mechanical pressure, a gland, or a collection of glands matted together, may give rise to compression of the carotid or jugular, the trachea or œsophagus, the recurrent laryngeal, symphathetic or vagus nerves. Epistaxis is sometimes caused by them, and even fatal suffocation.

It is seldom that diagnosis is difficult. Acquired syphilis may cause induration of the cervical glands, but the enlargement is less, the tendency to cheesy degeneration is slight, and we should find other venereal symptoms. A simple adenitis, such as might, for example, follow traumatism, is more acute. It exhibits more inflammation and either resolves or suppurates much sooner than a scrofulous gland. Pseudo-leukæmic glandular enlargements are more or less universal throughout the body, that is, in the axillæ and groins and at other joints, they grow more rapidly, do not break down, and are accompanied by marked anæmia and debility. Glanders and farcy could hardly be mistaken for mere scrofula if the physician exercised any care whatever; and the same might be said of bronchocele. Cystic and other tumors may occur in this region, but are comparatively rare, and their differential diagnosis can be learned in works on surgery.

"The scrofulous patient," says Allbutt, writing on the treatment of scrofulous neck, "runs three risks in the continuance of his local malady over and above his faulty inheritance, namely, first, a tedious local disease followed by a peculiarly unwelcome disfigurement; secondly the fear of deterioration of his general health thereby, such that his best years of adolescence are spoiled and his entrance into manhood thwarted and weakened; thirdly, an inoculation of the system with elements which favor the development of more general tuberculosis."

In the early stages it is quite possible that a gland may be absorbed if the general health be built up. Local applications may also promote the same result; but we shall revert to this point under treatment. When once nodulation, softening and adhesions have begun, the cheesy process is under way, and it seldom ceases before the gland is totally necrosed and discharged. A fibrous or calcareous transformation of the gland is, however, possible, as is also absorption even now. A further and more important consideration is the effect upon the general health, if the glands are tuberculous. Friedländer in his familiar lecture on "Local Tuberculosis" states that although the process is malignant it is not apt to become diffuse. Out of 332 cases of phthisis, Philips found, *post-mortem*, "scrofulous scars" in but seven. Again, out of 1,078 autopsies of consumptives less than one per cent. showed evidence of cervical gland disease. Says Treves, in his work on "Scrofula and its Gland Diseases," "while scrofula and phthisis are manifestations of the same morbid process, I am nevertheless convinced that phthisis is by no means common in the scrofulous, and that the bulk of such patients do not die of pulmonary consumption." And as to the danger of acute miliary tuberculosis, Treves does not think it very great, although he would not be utterly indifferent to it. On the other hand, Rindfleisch believes that "Tuberculosis hardly ever appears except in scrofulous persons." Lynch affirms that "The products of decay resulting from scrofulous processes may enter the circulation and directly produce the tuberculous dyscrasia." Further remarks about prognosis will be made incidentally under Treatment, which is the next and final topic.

The first indication to be met is of course to allay all causative disorders, such as eczema, rhinitis, pharyngitis, and the like. The general health next demands attention. In the first place it is usually depraved. Secondly, if the patient be in a state which offers the bacilli tuberculosis a favorable nidus so far as the lymph glands are concerned, why may we not justly fear that predisposition to tuberculosis pulmonum also exists? Either ground is sufficient basis for vigorous tonic treatment. Fresh air should be obtained for the patient, either at the seashore or in the mountains or in the country. For dwellers near the coast it would seem more natural to choose the interior. Sunlight, moderate exercise, simple but nutritious and abundant food, salt-water baths, and such analeptics as cod-liver oil, iron, arsenic or iodine, all these should be simultaneously brought to bear upon the case.

If glands are already cheesy we may be tolerably certain that a lingering, disagreeable and disfiguring process will go on for months and perhaps years, unless the necrotic tissues are removed by operation. Experience has proved only too clearly the inefficiency of external applications; while surgical removal has been found to be very satisfactory and comparatively easy. For example, Billroth, Treves, Fagan, of Belfast, and Teale, of Leeds, all express themselves as pleased with the results of extirpation.

About the treatment of cases still in the first stage there seems to be more room for difference of opinion. Let us make sure before we form our own, what we would like to obtain for a local result. Friedländer makes the following therapeutic deductions at the end of his lecture already referred to: it is desirable to remove tubercles where it can be done without danger, because (1) they are fated to destruction, and until they are removed recovery cannot be perfect. And (2) by such removal we destroy a source of at least local infection. On the other hand, he proceeds to say, we should only very exceptionally undertake any serious operations which cripple or deform the patient, just on account of local tuberculosis: because (1) constitutional infection is not inevitable, and (2) spontaneous recovery is possible. Schüppel quotes with warm approval the dictum of Virchow that "it is certainly justifiable to remove as early as possible such tuberculous organs as can be easily reached. "If operation seems impossible or undesirable then we should at least hasten suppuration and free discharge." Treves in discussing treatment declares, "Out of the enormous number of patients who present caseous deposits in their bodies the percentage of those who fall victims to

diffused tubercular disease is so very small that the probability of that disease may be put out of the question. I think also," he continues, "that the argument advanced by Ruehle in favor of removing glands on the plea that such removal may prevent phthisis is unworthy of consideration in discussing this mode of treatment," that is, by excision. These opinions seem to differ considerably, but certain deductions can be made from them. There is an acknowledged possibility of constitutional infection from strumous glands. The virus, if it becomes thus generalized, can only do so by way of absorption. It is then pertinent to inquire, Why endeavor by external applications to promote resolution of enlarged cervical glands?

Very likely we all breathe daily into our lungs the bacilli of tubercle and yet do not become consumptive, because presumably our bodily condition is such as repels the invader. But the sufferer from tuberculosis of the cervical glands might as has been seen, naturally be supposed to exhibit a predisposition to tubercle. If by invigorating his system we get him into such a state that Nature of her own accord absorbs the disorganized tissues, we may be content; for she probably will do it with impunity. Experience shows that this is often the case. It does not, however, commend itself to my judgment to seek, even in the first stages of the malady, by local irritation, such as the application of various forms of iodine or by blisters or electricity, as some recommend, to excite an artificial resolution, if I may so express myself. It may be added that the attempt is often futile. If *general* stimulation fails, then we should resort to extirpation.

The only occasion which seems to me to call for local application is where there are pain, heat and swelling, and as yet no certainty that suppuration has taken place. Such glands should be treated with a cooling wash until they either abate or else present clear signs of pus.

By first improving the general health there will little time be lost. Possibly some or all of the glands may be absorbed. If not, operation will take place under much more favorable auspices.

Glands which are in the first stage and freely movable can be quite readily cut out. The incision should not be very long. Violent tearing of the surrounding tissues besides other things brings danger of troublesome periadenitis. The cheesy glands (which are nodulated or have perhaps suppurated and are fixed to the skin and to each other) are usually best extirpated with a spoon. Treves has found the thermo-cautery very serviceable. In cases where a subcutaneous abscess has formed it is often a much more ready than satisfactory method to make a simple incision. Pus should indeed be evacuated without delay; but a careful search will quite frequently discover a sinus leading from this superficial abscess to a cheesy gland deeper in, which itself must be eradicated. Teale praises Bigelow's sinus dilator for such operations. Antiseptic precautions are advisable, and iodoform makes a good dressing. Drainage is usually necessary. Healing is promoted by obtaining rest for the parts as by a leather or gutta-percha stock, outside the bandages.

The different manifestations of scrofula are said to be somewhat antagonistic to each other, so that "the particular scrofulous malady any given patient presents would appear to protect him from any other outcome of the disease for at least the time being." This need not, however, prevent operation, for there is practically no danger that the eradication of scrofulous glands will indirectly excite caries or tumor albus and the like elsewhere.

SOME OBSERVATIONS ON HEALTH RESORTS.[1]

BY E. O. OTIS, M.D., OF BOSTON.

IT is not with the expectation of presenting anything new upon the subject of health resorts that I write these few notes. But rather with the hope that possibly I may render some aid, by means of the following suggestions and record of personal observations, limited though they may be, to the family physician who is called upon, as he unfortunately so often is, in this climate, to recommend a proper resort to his patients suffering from pulmonary trouble, for they compose the majority of those who seek a new clime.

The whole subject of climatic cure is a many-sided one, and there are many and diverse opinions as to what constitutes a suitable resort for those with delicate or diseased lungs. I have only to refer to the excellent paper of Dr. Harold Williams, in a recent number of this JOURNAL, to show the variety and conflict of opinions which exist upon this subject. The general fact, however, remains that thousands have had their lives prolonged or saved by a timely resort to some one of the many places in this country, more favored by nature as to climate than this bleak New England coast.

I am not a partisan of any special portion of the country or place, as a universal elysium for all those afflicted with lung trouble. On the contrary, I believe that each individual case should be carefully considered in all its aspects, and be sent to that place and climate which seems best to meet its own especial needs and requirements.

One person has little vitality and is always pinched with the cold; such a one obviously will do better in a moderately warm climate, like southern California or Florida. Another case will endure a certain degree of cold, and will thrive in a locality of lower temperature, like Colorado or Asheville. Again, the digestion may be at fault, and it is of primary importance that a place should be selected where a good table can be depended upon even if something has to be sacrificed as to the climate. Moreover, the mental condition and temperament must not be disregarded, and the kind of life the patient has been leading. One person requires much diversion, and would be wretched in a quiet, secluded place, but contented and happy in a more lively one, like St. Augustine, for instance.

Companionship is also an important element, and with pleasant, genial companions, one will often make greater gain in a less favored locality, than with the lack of them in one more nearly approaching the ideal climate. The opportunities which different resorts offer for varieties of exercise are not to be lost sight of, as well as the favorite form of exercise of the patient. Happy and fortunate is the consumptive, as well as any other man, who has a hobby which will give him exercise in the open air, be it fishing, gunning, rowing, or horse-back riding. I believe that the cause of many of the unfavorable results in cases which have been sent to health resorts of acknowledged worth, is the neglect of carefully considering all these factors.

Of course, it goes without saying, that due attention

[1] Read before the Section for Clinical Medicine, Pathology, and Hygiene, of the Suffolk District Medical Society, January 13, 1886.

should be given to the hygienic condition of the locality determined upon, and also, that the fundamental principles of all health resorts are to be borne in mind, namely: pure air, dry soil, and abundant sunshine. Elevation, dryness, and equability, are often, I believe, of secondary importance, and are to be taken into account rather when the requirements of the individual case are being considered.

There should be at hand, also, in every health resort, a reliable physician, with whom, if necessary, the home physician can communicate concerning his patient, and who being familiar with all the conditions of the place and climate, can give such advice as one should have upon taking up his residence at the resort.

I am of the conviction, as I believe all are who have given much attention to the matter of climate, that the best results are obtained by as long a continuous residence as possible in the place and climate which has been found to suit the case. It takes a long time to become acclimated, if the change is at all radical, as from a cold to a warm climate, or from a low to a high elevation, and after that comes the benefit and improvement, and so long as that continues, the better it is to remain in the chosen resort.

Still there are many whose conditions and circumstances are such that the stay away must be limited, and the number of places from which to choose restricted. In order, then, that the most good may be accomplished from the time allowed, all the greater care must be given in the selection of the resort from among the ones possible to the case in question. Indeed, so many points have to be thought of in choosing a new home for the man of weak lungs, that I have almost come to the conclusion that no physician has any right to advise a patient to go to this place or that, unless he has first visited it himself and thoroughly investigated its advantages and defects. Recently, a young lawyer came to me and related his experience in being sent to a health resort. After it was determined, from the condition of his lungs, that he must go away, the advice as to a new climate was something in this wise: "Some say this place is good; others that; I know nothing of any of them. You may find the Tennessee Mountains of benefit, but I know nothing about them; have never been there; you can go and try them." So he went, and after numerous vicissitudes, he fell to living a complete out-door life, much of the time on horse-back, and came home apparently well, and has remained so for several years. Such hap-hazard advice, however, will not always have such fortunate results.

"Happy the patient," says Youmans,[2] in a recent article on "Thomasville as a Winter Resort," "advised to change his climate when the physician knows enough to give him intelligent instruction as to whither he shall proceed. Does he need a mild or a high temperature? a damp and relaxing, or a dry and bracing air? an inland location or the seaside? a valley or a mountain? Should he try Bermuda or Aiken, or Nassau or St. Augustine, or Asheville, or any of the score of resorts recommended for pulmonary invalids? If the doctor settles the point, it is well; if not, the patient must take his chances, and do the best he can to settle it for himself." Going on to relate his own experience, he says: — "With lungs badly out of order, everybody said I must escape the severities of a New York winter by going somewhere. I advised with several eminent pulmonary experts, who agreed that it might be a good thing to get away, but did not seem to think it made much difference where I went."

If specialists continue to multiply, perhaps in the future we shall have the specialist on climate. One who has visited the different health resorts and made careful observations, not only as to any particular climate, but of all the accessories of the place — food, sanitary condition, means of exercise and amusement, manner of reaching it, and so on; and who, moreover, will give an unbiased opinion, instead of the half truthful, exaggerated reports which local partisans give of the places they are personally interested in. In a pamphlet before me, just received from Thomasville, Ga., I quote the following as illustrative of this exaggeration: "The fact is well recognized that a damp atmosphere is what a sufferer from pulmonary trouble should avoid, and it follows, that to obtain the greatest amount of good effects from the presence of the fragrant pines, the breezes that waft the balsamic odors abroad must be dry, and themselves inodorous. In order that these conditions be fulfiled, it is essential that large quantities of water be absent, and the surface of the country be high and rolling. A fulfilment of these conditions is impossible in Florida, surrounded as the State is, on three sides by the ocean, with its land surface but a few feet above the level, a dreary waste of interminable swamp, intersected by sluggish streams and marshy lakes. Perched on her elevated position, Thomasville can lay claim to the advantages of a dry climate and thorough drainage, and her claims have secured the recognition of the most eminent physicians of the country who have made pulmonary troubles a study."

Again, in an article entitled "Marion County, Florida: An Ideal Winter Climate," by Dr. Maxwell, of Ocala, published in the *Medical News* of December 19, 1885, the author, among a number of very loose statements, makes this assertion: "It is capable of demonstration . . . that Florida possesses the essentials (of an ideal winter climate), in a higher degree than any country now known;" and as a part of this demonstration, he introduces a table of mean relative humidity, compiled by Dr. Kenworthy, from the inevitable Signal Service Reports, which shows, he says, "that Jacksonville, in the matter of dryness of air, compares favorably with the popular resorts in all parts of the world;" the table given, containing the names of thirteen places only, three being in Minnesota, three in Florida, two in France, and one each in Nassau, New Jersey, Georgia, Dakota, and Massachusetts. If the Doctor had included Denver, for instance, in his list, he would have found its relative humidity some seventeen points lower than that of Jacksonville.

I will now give some notes and bits of information upon a few health resorts I have visited in the South and elsewhere, and I trust I shall be pardoned if I seem to give some petty details, even to the noting of boarding-houses; for such information is often of much assistance in settling the perplexing question of a new home and climate.

The Southern resorts can roughly be divided into those of the coast, interior, and mountains, and with the exception of the latter regions, are generally regarded as winter homes for invalids; but the rule of continuous residence, before mentioned, will hold good, I believe, even of many of these Southern localities. The mountainous regions, embracing the Alleghany,

[2] Popular Science Monthly, December, 1885, page 188.

Blue Ridge, and Cumberland Ranges, are considered more appropriate for the milder portions of the year, but here, again, I would advocate the above rule for, at least, portions as far south as Asheville, unless the idiosyncrasy and condition of the patient were such as to forbid a moderately cold climate.

Of the coast resorts, places on the East or West side of the Peninsula of Florida are, perhaps, more generally selected, and whether the Atlantic or Gulf of Mexico shore is the more favorable, seems to be a matter of opinion. As the prevailing winds are East, it is said that the Atlantic coast gets the purer air direct from the ocean, while it reaches the Gulf coast after blowing over the peninsula, and is, in consequence, more or less vitiated. Of course, the climate of all sea-coast resorts is a more or less moist one, which, in adapting a climate to the individual case, is a factor to be considered.

One fact I desire to emphasize, and I might as well mention it here, namely, that, in my experience, it is exceedingly difficult to obtain good food in the South. The meat and bread are poor, as a rule, and the coffee, with few exceptions, execrable, and from the fact that there is very little grazing, the milk is poor, if, indeed, it can be obtained at all. The houses where good board is obtained are generally kept by Northern people.

On the Atlantic coast, St. Augustine is the best-known resort, and it has much to recommend it. The soil is sandy, and the days, so far as my experience goes, are generally sunny and delightful. The mean temperature is 58° in the winter, and 68° in the spring. The number of clear days for the whole year is said to be 235, which I should very much doubt. Artesian wells have recently been sunk, and the city is now supplied with good water in place of the surface water formerly used. It is an attractive place on account of its picturesque, quaint architecture, the old fort, sea wall, and barracks, and the presence of a military band adds much to the pleasure and entertainment of the exile. There is also good sailing and pleasant water excursions.

If I may be allowed to give a couple of names, I will say that any one who can obtain accommodations at Miss Hasseltine's on St. George Street, and have for his medical adviser Dr. Adams, will be well cared for. As to malaria, I have not much doubt as to its existence pretty much all over the South, but I saw very little evidence of it in St. Augustine.

If one desires to go still farther south on the Atlantic coast, the little town of Daytona on the Halifax river, was highly extolled to me for its agreeable climate, by a resident of the place.

Going over to the Gulf side, I will speak of Tampa, reached by railroad direct from Sanford. In itself, it is not very attractive, the streets being very sandy, which renders locomotion uncomfortable. The bay, however, is delightful, and the excursions upon it, and up the Manatee River, and to Egmont Key are charming. So far as one's sensations go, the air seems delicious.

Bordentown, on the Manatee river seemed to be a quiet, pleasant retreat. I believe it is on the Gulf coast, a little way from Tampa that a location for a sanitarium has been recently selected. On the line of the railroad going from Sanford to Tampa are many attractive places in the Pines, Orlando, Winterpark, Longwood, Altamont, and Kissimmee, the latter prettily situated on a lake of the same name. Many find health and comfort on the St. John's River, but it seems to me that malaria must be more prevalent there than in places away from the river.

Anywhere in Florida one is pretty sure to find conditions under which he can lead an out-door life, which answers one of the primary requisites for a health resort. Still the low, and in many portions, swampy character of the soil is a serious objection to its choice as a health resort in many cases.

About twenty miles inland from Charleston, S. C., is a resort much in favor with the Charlestonians, called Summerville. It is far enough away from the coast to escape the frequent east winds, and has a mild, equable temperature. It is in the midst of the pines, and has a pure air and sandy soil. From my experience, however, one must have a good digestion if he would gain any benefit from a sojourn here. There is frequent daily communication with Charleston, and the diversion of a run to the city is an added attraction to the place.

Fortress Munroe or Old Point Comfort does not seem to me to be altogether favorable for a continuous residence, but rather for a limited stay in the spring or autumn. The soil is clayey, the weather uncertain, and fogs are frequent. This opinion is fortified by that of one of the military surgeons whom I met there. The exceedingly attractive and unique life which one finds there, however, and the many excursions by land and water mitigate very decidedly the unfavorable climatic conditions, and succeed in drawing the patient out of doors and out of himself. The peculiar Indian summer days, which are frequent there, are particularly soothing and restful. For those who cannot afford hotel prices, and who desire greater quiet and seclusion than can be obtained at a large hotel, I will give the name of a good boarding house, the only one in fact on the reservation. It is that of Mrs. Eaton's, near the water and opposite the Fort. On the Hampton River, opposite the beautiful grounds of General Armstrong's Normal Institute and the Soldier's Home, is the boarding house of Daniel Cock, of good report, where there are good opportunities for rowing. It is, however, too far away to allow one to enjoy the diversion which the Fort life offers.

To jump from the South to the North, I wish to say a few words in conclusion, upon the Adirondacks, where there are patients not only in summer, but also now quite a colony in winter. Dry it is not, judging from my experience the last summer, and the diurnal variations of temperature are quite great. But despite all this, so far as my observation has extended, consumptives do remarkably well there, provided there are no very acute symptoms. The air is bracing and pure, and the out-door attractions numberless. Everything conduces to keep one in the open air, and persuades to much exercise. The grazing is good, and consequently the milk is abundant and rich. The boarding houses are often poor, but good ones can be found, as all who have made trial of the Mirror Lake House at Lake Placid can testify. I do not know that it makes much difference where one goes in the Adirondacks in the summer; perhaps the portions of about two thousand feet elevation are the best. If one is strong enough, and the digestion is good, camping out probably gives one more pure air than can be obtained in any other way.

Saranac seems to be the winter home for consumptives in the Adirondacks, and has the sanction of Drs.

Loomis and Trudeau. It is better protected from the winds than other places, and commands a good physician. Near by the village of Saranac is the sanitarium recently established — a most admirable charity. It consists of a large main building and several cottages and tents, and, at a small price, one can obtain every needed comfort. The only objection, if it is one, is the bringing together, in such close proximity, a number of consumptives. This did not seem, at least, to have a depressing effect, judging from the cheerful appearance of those I saw there. The sanitarium is kept open all winter, and I have at hand a letter from a lady who has been an inmate of the institution all summer, who wrote me that she has gained so much she proposed to spend the winter there. It was quite noticeable how many began to gain in weight after coming to the Wilderness.

I do not want it understood that I ignore the numerous other health resorts I have not mentioned, or consider those I have the best; I have only spoken of the few I have happened to be personally acquainted with. I doubt not that there are many others far more ideal than any I have mentioned. All know of the remarkable results of the Colorado and New Mexico climatic cure, and of the influence of the climate in certain portions of California, and of the high pine lands of the South, as represented by Aiken; indeed, I think we have in this country a wealth of health resorts from which to choose. I desire, however, to emphasize the fact that there are many other considerations to be carefully weighed in selecting a resort for a consumptive beside the one of the best ideal climate; in fact, that is the best ideal climate for the individual patient which best meets his individual needs, mental and physical, and that in any place where the air is pure, the sunshine constant, and the temperature so adapted to his condition that he can live out of doors, he will improve if improvement is possible.

I will very hastily run over a single case which I think well illustrates the points I have been attempting to make clear in this paper.

In March of last year, I discovered, to my great surprise and alarm, that a member of my family had evidences of consolidation at both apices, accompanied with a moderate rise of temperature. Distrusting my own judgment when thus personally interested, I sought the opinion of Dr. Knight, who very kindly gave it, but corroborated my worst fears. In addition to the pulmonary trouble, the vitality was low, and there was much dyspepsia of many months' standing. The outlook indeed seemed dark, the prognosis grave. Many weeks of trying weather still remained, and I determined that an immediate change of climate was imperative, and that the harsh spring winds must be avoided. The first requisite was such a climate as would enable one to exist with the least exertion, and lead an out-door life. Moreover these conditions must be obtained with as little outlay of strength as possible on the part of the patient. I therefore went with my patient to St. Augustine, reached from Washington in about a day and a night. There I found delightful weather and sunny days, where a delicate person could live out of doors from morning to night, with perfect comfort. Damp no doubt it was and low, far from an ideal climate for a consumptive one might say, but it exactly fulfiled the conditions required for the patient in question, and before the month of April was over, she could walk about the old town, and take a lively interest in what was going on, whereas on her advent, she could hardly get across the street, and was indifferent to surrounding scenes. The lungs remained much in the same condition, to be sure, but the strength was returning, and the drooping spirits had revived.

At the beginning of May, we gradually retraced our steps North, following the strawberries. At Charleston it was the season of roses, and out-door life was delightful. Every day brought an excursion with it. There were also pleasant companions, and so we had again an ideal climate for the especial requirements of this especial case. Loitering along we finally reached Fortress Monroe in its pleasantest season, and here several weeks were spent with benefit to body and mind. Now it seemed to me that the general condition had so much improved that a more bracing climate might with safety and benefit be tried, so our next move was to Lake Placid in the Adirondacks, two thousand feet above the level of the sea. My hopes were realized. From one hundred and three pounds, the weight went up to one hundred and twenty; the dyspepsia almost entirely disappeared, and the consolidation began to clear up. So much had been gained at the end of October that it seemed to me still more might be ventured, and after an interim of two or three weeks, my patient went to Colorado, where she now is, and, I have the most encouraging reports of her well-being and steady improvement.

RECENT PROGRESS IN ANATOMY.

BY THOMAS DWIGHT, M.D.

THE PELVIS AND SACRUM IN ANTHROPOLOGY.

ALTHOUGH it is unlikely that the skull will ever lose the place of honor as the most important part of the skeleton in comparing races, it is very satisfactory to see other parts of the body brought into requisition. Apart from their probable inferiority to the head in anthropological significance they have the further disadvantage of being comparatively few in number, even in the best collections. None the less it is a great advance to have comparisons made between as many parts as possible. We noticed in these reports a few years ago the researches on the scapular index by the late Professor Broca, in Paris, and by Professor Flower and Dr. Garson in London. The idea of using the pelvis in anthropology is no new one, but in fact we are not aware of any great progress having been made in the last hundred years until comparatively recently.

An evident difficulty in the study was the want of some generally accepted plan of comparing the different parts of the same pelvis, to remove which Dr. Garson proposed in 1881 that the transverse diameter of the brim of the true pelvis should be 100, and that all other measurements should be compared with it. Thus if he were taking the distance between the anterior superior spines of the ilia, the depth of the pelvis or any other measurement, the latter should be multiplied by 100 and divided by the superior transverse diameter of the same pelvis. There are some who would prefer the antero-posterior diameter as the basis, but Professor Turner,[1] by adopting the transverse in his

[1] Journal of Anatomy and Physiology, Vol. xx., October, 1885 and January, 1886.

"Report on the Bones of the Skeleton" in the "Challenger" collection has probably settled the matter. His first paper on the pelvic brim introduces some new terms which, however, are not quite unfamiliar. When the index (obtained by multiplying the antero-posterior diameter by 100 and dividing by the breadth) is above 95 the pelvis is long *dolichopellic*, when below 90 it is wide *platypellic*, and those from 90 to 95 both inclusive are *mesatipellic*. As to the measurements themselves there can be no question that in the case of many races the number of observations is too small to be of much value. Omitting some races which from this cause cannot be placed certainly, we find that Professor Turner gives as *dolichopellic*, Australians, Bushmen, Hottentots, Kaffirs, Malays and Andamans; as *mesatipellic*, Negroes, Tasmanians and New Calendonians; as *platypellic*, Europeans generally, Mongolians generally, and American Indians.

In his second paper he takes up the sacral index but does not compare the measurements to the transverse diameter of the brim of the pelvis, but has chosen to multiply the breadth of the sacrum by 100 and divide by the length. *Hieron* being the Greek equivalent of sacrum we have *dolichohieric* for one in which the length exceeds the breadth and *platyhieric* for one in which the breadth is the greater. Again, omitting races which Professor Turner classes as doubtful from the few observations that were possible, we find the sacral index is above one hundred, that is, that the sacrum is long in Australians, Bushmen, Hottentots, Kaffirs, Andamanese, Tasmanians, and Malays. It is broad in Europeans, Negroes, Melanesians, Hindoos and North and South American Indians. As would naturally be expected, it appears that the broad sacrum is often found in the broad pelvis and the long sacrum in the long one; the latter it is needless to say is the lower form.

THE EFFECT ON THE BLADDER OF DISTENDING THE RECTUM.[3]

Some years ago experiments were made by Braune and Garson and published in German, and a little later published by Garson in the *Edinburgh Medical Journal* of October, 1878, with some facts we believe not included in the former publication. We, therefore, refer to these experiments as Garson's. The rectum was more or less distended, the body frozen and median sections made. It was shown that the effect of distending the rectum was to push the bladder bodily upward, and that the prostatic part of the urethra was stretched and its direction changed. It was also shown that the fold of peritoneum in front of the bladder was carried away from the symphysis pubis. Somewhat later Petersen[4] made observations on the latter point by the method of opening the peritoneum by a cut in the median line, finding the lowest point of the peritoneal fold with his finger and observing its displacement when the rectum and bladder were filled.

The author of the present paper has made a series of similar experiments by means of frozen sections, which are of much interest in many respects. The paper is illustrated by four excellent colored plates. The first section was made to show the position of the parts with an empty rectum and a moderately filled bladder. The latter was filled with 300 ccm.[5] of fluid. The bladder takes up the greater part of the true pelvis. The beginning of the urethra is situated 1 cm. above the level of the lower border of the symphysis and 4 cm. behind it. The fold of the peritoneum leaves the wall of the abdomen only ½ cm. above the symphysis. The recto-vescical fold extends even below the tip of the coccyx.

The next step was to show how a bladder holding about this quantity would be displaced by a full rectum. Unfortunately, however, as it seems to us, the bladder either by accident or design contained only 200 ccm., and the rectum was distended with 480 ccm. The bladder appeared decidedly smaller than in the first plate. It is pushed upward and forward against the front wall of the body and its posterior surface is curved in by the rectum. The beginning of the urethra lies 4 cm. above the lower border of the symphysis and 1 cm. behind that bone. The peritoneum leaves the anterior wall 4 cm. above the pubes. The recto-vesical fold is nearly 5 cm. above the level of the lower border of the symphysis. The bladder is almost crowded out of the pelvis and the prostatic part of the urethra runs nearly straight downward. We have observed this last point in a section of a pelvis in which the rectum was tolerably full and the bladder almost empty.

The next plate shows a section of a body in which the rectum was empty and the bladder much distended, containing 630 ccm. The bladder is nearly round. It fills the true pelvis almost completely. The beginning of the urethra is on a level with the lower border of the symphysis and 4.5 cm. behind it. The peritoneum leaves the anterior wall about 2 cm. above the pubes and the recto-vesical fold comes down as low as the base of the coccyx. The course of the prostatic part of the urethra is very remarkable, it runs almost horizontally forward.

The next and last plate is intended to show the state of affairs when both bladder and rectum are strongly distended. The former was filled with 420 cm. and the latter with 500 cm. of fluid. The picture is a very striking one. We should say, on a rough estimate, that five-sixths of the bladder are above the pelvis. It is somewhat pear shaped, the long axis being vertical. The beginning of the urethra lies hardly 1 cm. behind the symphysis and some 2.5 above its lower border. The peritoneum leaves the abdominal wall 8.5 cm. above the pubes. The recto-vesical pouch is on a level with the top of the symphysis. The prostatic urethra again is nearly vertical. These plates show how movable is the lower part of the bladder and what changes in direction the first part of the urethra may present. They show also that the rectum being empty an over-full bladder tends to occupy the pelvis, at least as much as to expand into the abdomen. A comparison of the first and third plates will make this quite clear. In both the rectum is empty. In the first the bladder is moderately, in the latter excessively full, but we see in the latter that the progress of the bladder downward and backward is very remarkable. A comparison of the third and fourth figures shows further that though distention of the bladder alone carries the peritoneum away from the lower part of the abdominal walls, that this effect is greatly increased by filling the rectum. We infer, both from the silence of the author and from the plates that the bodies were frozen on their backs, and as this is the position in which the patient generally comes under

[3] Dr. Fehleisen. Archiv für Klinische Chirurgie, Bd. xxxii, 1885.
[4] Verhandl. der Deutschen Gesellschaft für Chirurgie, 1880.
[5] 35 ccm. = $\frac{1}{3}$

the surgeon's hands, it is no doubt the proper one; still it would be very interesting from a practical as well as a scientific standpoint to see the results of similar series of experiments in which the bodies should be frozen in both the prone and the upright positions.

STUDIES ON TOPOGRAPHICAL ANATOMY OF THE THORAX.

Dr. Topken[6] has studied the old question of the position of the heart. Although his conclusions present little or nothing that is new, the article is of value owing to the analyses of the works of well-known authors it contains and to the writer's careful observations and experiments. A very useful feature in the paper is a series of diagrams of the front and side of the chest on which the positions of frozen sections are represented. By means of these he discusses the results given in Henke's work on the position of the heart, those in Braune's celebrated atlas and a new series by the same anatomist that have not yet appeared. This paper, therefore, is well worth study. The conclusions condensed are essentially as follows: It is not possible to name a precise spot as the normal position of the apex either during life or after death. In young people the heart is placed higher than in old ones. Generally the heart is found higher after death than in life owing to cadaveric changes that move the diaphragm upward. The heart, however, is found lower after death even in the young, if expiration is impeded at the moment of death as is usually the case in drowning.

Dr. Sick[7] discusses the relations of the pleuræ to the sternum, the position of the valves of the great arteries, which he groups together, and the height to which the diaphragm rises on the right. He examined forty-six bodies of various ages from new-born children to very old age, but the majority of them seem to have been those of persons passed middle life. Our author believes that the diaphragm reaches the level of the insertion of the cartilage of the fifth rib to the sternum. We presume that he means after death. The most interesting question of those treated is the position of the pleuræ in regard to the sternum, and this is of especially practical value as it bears on the operation of tapping the pericardium. It appears that the left pleura is much more likely to reach, or to nearly reach, the left side of the sternum at the fifth and sixth cartilages than is generally supposed. In twenty-three bodies of adults the reflection of the left pleura at the fifth cartilage was seventeen times either behind the sternum or just at its border. At the sixth cartilage in ten cases it was still behind the sternum and in six cases was less than 1 cm. distant from it. At the level of the seventh cartilage in nine cases either the pleura was against the border of the sternum or else its lower reflection had occurred above the point. In two cases it was less than 1 cm. distant at this level. Clearly not very encouraging conditions for the puncture of the pericardium at the left of the sternum if passing through the pleuræ be considered a contra-indication.

As to the position of the arterial valves, out of twenty-seven cases they were found in twelve at the level of the third cartilage, in five at the third intercostal space, and in five at the fourth cartilage. Dr. Sick states that in several cases pins thrust in at the left side of the sternum pierced the aorta.

[6] Archiv. für Anatomie und Entwickelungsgeschichte, 1885.
[7] Ditto.

THE GLAND OF THE NASAL SEPTUM.

Jacobson's organ has of late been held to be present in man in a rudimentary condition. It is described in the ninth edition of Quain, and has been the subject of several papers by Klein in the *Quarterly Journal for Microscopical Science*. It may not be out of place to mention that this organ (in man) is a small canal under the mucous membrane of the nasal septum which opens a little above and anterior to the Stenonian canal. Many glands open into it and a special cartilage lies below it. In the rabbit and guinea pig, in which it is well developed, it receives considerable branches from the olfactory nerve, thus making it appear to be some special sense apparatus connected with smell.

Professor Gegenbauer[8] thinks that the little structure in the human nose above described is not a representative of Jacobson's organ at all, but a rudiment of a nasal gland, which is also found in some mammalia. He bases his view on two points in which the structure in question differs from Jacobson's organ. First, that in man the opening is above the floor of the nasal cavity, and next that the special cartilage lies below it and at some distance, instead of surrounding it as it does Jacobson's organ in all animals that have it.

Hospital Practice and Clinical Memoranda.

A CASE OF CO-EXISTENCE OF SCARLET FEVER AND MEASLES.

BY FRANCIS F. BROWN, M.D., OF READING, MASS.

GERTRUDE F., aged thirteen, was taken Thursday evening, January 28, with an attack of scarlatina anginosa. It was ushered in with vomiting and delirium. The vomiting persisted three or four days, but after the first, seemed to be kept up by the irritation of the fauces, produced by the swelling of the throat. The eruption was out on Saturday, the 30th. The attack was severe, the throat badly swollen, the breath, at first, foul; pulse, 125 to 130; temperature, 103° to 103.9° in the axilla up to the following Thursday.

On Monday, February 1st, there was some cough, and for the two days following, and her face had a peculiar spotty look; this and her next were her sickest days. On Tuesday, her face was covered, mingled with the scarlet fever rash, with an unmistakable eruption of measles; none were seen on the body. Just ten days previously, her younger brother first broke out with the measles. The respiration was hurried also, somewhat, but less so the next day. Wednesday, the eruption of measles had extended over her body and limbs, mingled with the scarlet rash, while on her face, neither could be distinguished; but the skin of it, with the exception of here and there a whitish spot, was of a uniform dark-red color, and elevated, giving it a peculiar look, as if covered with a red mask.

On Thursday, February 4th, the fever had abated, and from this time she convalesced. The general redness and elevated appearance of the face was gone, leaving the eruption of measles again distinct, and it could be faintly seen here up to the 6th and 7th. Both eruptions were fading on the body, and after that day,

[8] Morphologisches Jahrbuch, Bd. XI., 1885.

none of the appearances of measles were seen there, while the redness from the scarlet fever remained a little longer.

This case is reported on account of its infrequency. The case of varicella occurring simultaneously with scarlatina, reported by Dr. Ayer, in the JOURNAL of February 4th, 1886, shows that such distinguished authorities as John Hunter and Hebra were too sweeping in their assertions that the eruptions of two exanthema never co-exist. The appearances in this patient were closely watched and noted at the time, and I do not think I could be mistaken. There has certainly been no lack of opportunity in this vicinity, of studying the characteristic features of measles the present winter.

A little reflection will show that the variety of this combination of the two diseases does not by any means prove their incompatibility. The chances that any patient will be so exposed as to bring on both at the same time are extremely small, and this may in part, at least, account for its infrequent occurrence. A few cases of scarlet fever known to have been fully exposed to measles from ten to fourteen days before, and failing to get it, would tend more to show their incompatibility, than the bare fact of the infrequency of their simultaneous appearance.

Reports of Societies.

MASSACHUSETTS MEDICAL SOCIETY. SUFFOLK DISTRICT. SECTION FOR CLINICAL MEDICINE, PATHOLOGY AND HYGIENE.

ALBERT N. BLODGETT, M D., SECRETARY.

JANUARY 13, 1886. The meeting was called to order at eight o'clock, by DR. F. I. KNIGHT, chairman.

The first business was the report of a committee appointed in accordance with a motion passed at the last meeting, for the purpose of suggesting some way for meeting the necessary small expenses of the Section. The committee was appointed subsequently to the meeting and consisted of Drs. Henry I. Bowditch, Henry C. Haven and Chas. M. Green. The report of the committee was presented by Dr. C. M. Green, as follows: The committee appointed at the last meeting to devise means of paying the necessary expenses of the Section in Clinical Medicine, etc., beg leave to report, that, although the treasury of the Suffolk District Society bears such expenses as rent, printing and stationery, there are occasionally expenses of such a nature that they must be borne by the Section that incurs them. The committee therefore recommends that an executive committee of three, of which the Secretary shall be one, be appointed to raise, in such way as the Section may see fit, the money to pay such expenses as are not borne by the treasury of the General Society.

DR. GREEN stated that it is desirable that the Section have some funds of its own, from which it may be possible to defray certain small but necessary outlays, such as belongs to the administration of any society. It might also be desirable at times to invite some distinguished member of the profession from abroad, to be present at some of our meetings, and it would seem no more than courteous to be able to remunerate such a guest for the expenses of travel, to say the least. At present the Section has absolutely no funds, and the necessary correspondence of the Secretary is conducted at his personal expense.

DR. H. J. BARNES asked the amount needed by the Section for the purpose stated?

The Secretary replied that during the period of four years, the expenses had gradually increased until the annual outlay now amounted to about twenty-five dollars. This does not include the cost of any entertainment at the close of the meetings, these having been provided on all occasions by the liberality of the members.

DR. GREEN said that the committee did not feel that they were authorized to propose any method for raising the needed sum, from the fact that the members already pay an annual assessment to the Suffolk District Society, and it would seem undesirable that an additional tax should be imposed upon them. It was therefore deemed best to leave the manner of raising the money to the Section.

DR. KNIGHT asked if the treasury of the Suffolk District Society is in a condition to assist the Section?

DR. GREEN, the Secretary of the Suffolk District Society, stated that this is not probable, as the General Society already pays the rent, and the bills for printing for the various Sections. Last year the General Society found it necessary to levy an assessment of one dollar extra, in order to avoid a deficit in its accounts. On motion of Dr. Barnes the report of the committee was accepted, and its recommendations adopted. The chairman then asked for some expression on the part of the Section as to the method to be employed for raising the sum required. The Section was not prepared to adopt any method at this time, and the chairman decided to defer further action until the next meeting.

DR. BARNES moved that the present committee be authorized to collect the amount needed, by voluntary subscription among the members. This was seconded by Dr. E. W. Cushing, and passed unanimously. It was moved by Dr. E. W. Cushing, seconded and passed unanimously that the thanks of the Section are due to the Secretary for temporarily advancing the funds hitherto required, until such time as the section might repay him. The regular business of the section was then taken up.

The first paper was read by DR. E. O. OTIS, entitled,

RANDOM NOTES ON SOME HEALTH RESORTS,[1]

and gave the reader's personal experience in a tolerably large number of places more or less noted as health-resorts during the last winter and spring.

DR. BARNES said that he had been much disappointed in the benefit to be derived from a change of climate to some of the most noted of our resorts. This was illustrated by the description of a trip made by a patient of Dr. Barnes' who was advised to go for the winter to Bermuda for a pulmonary trouble. He sailed from New York in a leaky vessel, stormy weather prevailed during the entire passage, and the patient was frequently drenched with salt water. A few days after arrival the patient was seized with rheumatic fever, and suffered much. He returned after an absence of six weeks, much worse than when he went away, and died a few days after arrival at his home.

As far as climate is concerned, in a health-resort,

[1] See page 221 of the Journal.

there is no doubt of the necessity that the air shall be more or less humid. We keep our houses much too hot, and the air is far too dry for health or comfort to those inhabiting them. A house heated by steam is not comfortable unless the temperature be kept much higher than is necessary in a house warmed by open fires, and particularly if there be ample provision for moisture in the air of the room. The most comfortable room in our modern houses is the kitchen, because there is always a change of air going on from the frequent opening of doors, and the draught of the range. The teakettle is always on the range and furnishes a constant supply of steam, which makes the air moist, as proved by the frost on the windows. Plants will grow in the atmosphere of the kitchen, but they languish in those parts of the house which are supplied with steam heat, or with hot air from a furnace. In moist air, a temperature of 68° is very comfortable, while in air too dry, it is necessary to keep the temperature as high as 75° or 80° in order to feel comfortable.

DR. A. H. NICHOLS stated that a recent hasty visit to the South enabled him to confirm the correctness of the statements contained in Dr. Otis' paper. It is a strange sensation to go in a few hours from a temperature of zero to that of 75°. The defect, however, of most health resorts is that the climate is not equable. This is especially true in the South. The climate of California is better in this respect than that of Florida, and that of Southern Europe is better than that of California. The *ideal* climate is doubtless that of Ovatava in Teneriffe. The coldest weather ever known there compares with our June, while the warmest weather is much like our July with the warmest days left out. A very striking feature of the climate there is the fact that the warmest period of the day is not at noon as we are accustomed to observe in the United States, but at a time before noon. During the middle of the day, a fog-bank rolls in from the sea and covers the land like a huge umbrella, thus effectually protecting the inhabitants from the extreme heat which would otherwise occur. . . . One fact in connection with the southern parts of the United States is quite surprising, that is, that in many places where one would expect to find malaria, the disease is unknown. This is true in particular at some points near the sea, where the air is humid and we find most of the conditions usually met with in malarious localities. The nearness of the sea, with the presence of iodine and possibly ozone, seem, however, to be the agents of protection to these localities from the poison of malaria.

DR. J. AYER remarked that although he had but little knowledge of the peculiar recommendations of the various health resorts, yet it is becoming more and more evident that physicians must inform themselves of the hygienic advantages of the different parts of our country, so as to be able to give an intelligent opinion and suitable advice to those needing a change of climate for any purpose. There are no doubt many places as yet unknown, which possess great advantages as sanitary abodes, and the physician should inform himself in regard to them, as a part of his professional education. In Europe the science of sanitation has reached a degree of perfection as yet unapproached in America. Patients from our own country cross the ocean to obtain the benefit of a change of climate, which our land with its immense area and variety of physical conditions would surely supply.

DR. VINCENT Y. BOWDITCH spoke of the great harm which frequently results from the careless manner in which patients are sent away from home to languish in uncomfortable and crowded boarding-houses, destitute of all the comforts to which they have been accustomed at home, and dependent upon the caprice and interest of hotel-keepers of all kinds, for everything pertaining to their welfare. Then too, one is liable to be misled by the careless statements of those who describe the various places of resort. Thus each locality is vaunted as possessing the "ideal" climate, and other localities are misrepresented. Aiken has been highly recommended by many persons, to the detriment of similar places elsewhere. It is true that this town possesses the advantages of high altitude and pine forests, and the air is doubtless of exceptional purity, but even these qualities are not adapted to all cases. While speaking of remote health resorts, we should not omit to mention those near at hand and which are easily accessible; thus, Wellesley Hills and Sharon are of great service to many cases of pulmonary diseases. The location is high, the air dry, and many of the requisites of a noted resort are attainable at a slight expense of time, strength and money. Patients in both of these places often achieve most gratifying results.

DR. E. L. PARKS stated that he passed the winter of 1877-8 in Santa Barbara, which proved to be a most delightful place of residence. There is no malaria in the town or neighborhood. The extreme between the coldest temperature of winter and the warmest of summer is but forty degrees. These statistics are thoroughly reliable, as they were taken by a gentleman, a physician, who was advised to go there for the benefit of his health, which was fully restored. He remained perfectly well as long as he resided in this place, but he could not live elsewhere, and as a pastime he made a series of careful observations upon the meteorological conditions of the place. The relative humidity is a thing which is a source of the greatest disturbance to many delicate patients. Often a patient who cannot live at the level of the sea, will be perfectly comfortable at an elevation of four hundred feet above the sea.

In a case of this kind the humidity alone is variable, all else remains unchanged. Another thing which is often a cause of disappointment in the effect produced by residence at any health resort is the way in which patients are allowed to make the journey to the new abode. Very frequently a sick person arrives without an attendant; he is not welcome, he may not be able to secure good or comfortable accommodations, and he is entirely at the mercy of those who may be willing to receive him. A case of this kind was known to the speaker, in the person of a gentleman from Boston, now deceased. He came unattended and unknown, he was unable to secure good accommodations, and was not comfortable during his short stay there. Aside from this, he was in a condition quite unsuited to travelling, and should never have been sent from home. A patient may go to Santa Barbara at a certain stage of pulmonary disease and by a prolonged residence, never less than a year, may quite recover. It is, however, worse than useless, to send a patient to Santa Barbara after all the other resorts have been tried. These cases will not be benefitted by the climate of Santa Barbara or that of any other resort. When a patient has reached a certain

stage of the disease, there is no benefit in change to any other climate.

Dr. E. W. Cushing said that the peculiar geological formations at many of the resorts for invalids, such as various parts of California, Nice, Cannes, etc., allows the patient to choose exactly the situation and the surroundings adapted to his comfort. The country rises rapidly from the seashore to the hills, so that an elevation of considerable magnitude may be attained at a short distance from the town, and within a short time from the sea-level. That it is not the "humidity" alone, or even to any great extent, is now generally admitted. The change of scene, the entire rest, the out-of-door life, and the relaxation from all labor are important factors in the amount of benefit to be obtained from a stay at any health resort. One of the most useful adjuncts to all the other measures which may be adopted, is exercise on horseback. Given good food, rest, trees, music and suitable companionship, with the advantages of good society, a sick person will often obtain great benefit from a stay at any proper resort. Throughout the South, however, the boarding arrangements are bad and the accommodations wretched.

Another objection to many, if not most "health" resorts, is the fact that one place after another fills up with phthisical patients, there is often no suitable water supply, and even more frequently no suitable provision for drainage, and the entire place becomes at length charged with the disease, the rate of mortality rises, and the place is ruined as a health resort.

Dr. E. T. Eastman thought that the most important object to be attained is the comfort of the patient. A sick person who is sent to a place where many consumptives are herded together, is quite easily depressed and may die from the moral effect of such melancholy surroundings. No doubt each year many persons die in such places who might recover under more cheerful surroundings. Above all, in the present state of our knowledge of pulmonary diseases, we should avoid the crowding of phthisical patients.

Dr. Knight said that it was gratifying to see that physicians had begun to use some discrimination in recommending climates. The discussion had been mostly restricted to the benefit of change of climate in pulmonary disease, but of course there were many other diseases which might be benefitted by an appropriate change.

A great and beneficial modification of the old custom of sending all cases of pulmonary disease to warm climates has taken place in recent years, a custom which has arisen from giving too much consideration to what might mitigate the concomitant bronchitis. There is no doubt of the great difference in the physical properties of different climates, and no doubt that we can favorably modify pathological conditions by taking judicious advantage of them.

In selecting a climate for consumptives the peculiarities of each patient should be considered, his temperament, the stage of his disease, complications, etc. If permanent arrest of the disease is hoped for, Dr. Knight said that he was always glad if the patient's condition is such as to allow of the selection of a dry mountain climate of considerable elevation. If his peculiarities will not admit of this, then a lower altitude, but still a dry and tonic climate should be chosen. It was unfortunate if a warm, moist climate had, for any reason, to be adopted.

The next paper was by Dr. Herman F. Vickery, entitled,

ENLARGED CERVICAL GLANDS.[2]

Dr. John Homans, 2d, thought that many other causes may exist for enlarged glands besides those mentioned in the paper. Thus rhinitis, pharyngitis, and tonsilitis may cause enlargement of the cervical glands. These are, however, the expression of a general systemic condition and are not dependent upon the local state of the neck.

Dr. Barker mentioned the enlargement of the glands of the neck following surgical operations as illustrating another causation of this condition.

Dr. Vickery said that the enlargement of the glands seems often to be secondary to other conditions. Thus a child pricked the neck with the tine of a fork, to a moderate extent. The prick healed quickly, but soon after there was noticed a distinct enlargement of the glands of the neck which proved to be not adenoma but scrofulous in character.

The next paper was by Dr. Edward B. Lane, entitled

TWO CASES OF CEREBRAL TUMOR, WITH AUTOPSY.[3]

Dr. J. J. Putnam stated that cases of tumor of the brain often present no definite or recognizable group of classical symptoms, by which their location, or size, or frequently their existence even may be determined. Dr. Putnam mentioned a case seen in consultation with Dr. Adams of Watertown, in which almost all the tissue of the pons was replaced by a large vascular glioma.

Dr. P. C. Knapp asked the seat of the tumor?

Dr. Lane stated that it was seated below the basal ganglia, and was evidently pressing upon the crus cerebri.

Dr. Cushing asked if the early recognition of the disease and its treatment by anti-syphilitic measures is of any avail in cases of cerebral syphilis?

Dr. Lane stated that no case is known in which the syphilitic lesion in the brain has been benefitted by any form of treatment.

Dr. Goldsmith has never seen a case of improvement in such cases.

Dr. Putnam remarked that probably that does not mean that no case may be relieved by treatment.

Dr. Lane stated that no case in which the disease was of a sufficient degree of severity to require treatment in an Insane Asylum had ever been known to be benefitted.

Dr. Putnam added that in the early stages of congestion, before deposits of syphilitic growth have taken place, it may be possible to improve the patient's condition. When chronic paralitic dementia has occurred there may well be no improvement from any mode of treatment.

Dr. Knapp added that in cases in which any mental derangement exists there is no hope from any form of treatment.

Adjourned at 10.15 o'clock.

— Pasteur has asked his government for a subsidy of 2,000,000 f. for the establishment of a hospital and for 50,000 f. a year to operate it. It is said that the authorities are in favor of giving him at least the latter grant.

[2] See page 219 of this Journal.
[3] See page 217 of this Journal.

BOSTON MEDICO-PSYCHOLOGICAL SOCIETY.

PHILIP COOMBS KNAPP, M.D., SECRETARY.

JANUARY 21st, 1886, DR. WALTER CHANNING in the Chair.

DR. F. M. TURNBULL read

A REPORT OF THREE CASES OF MELANCHOLIA, BEING ESPECIALLY A CONSIDERATION OF THE PROGNOSIS.

The first case was of a single woman, fifty-one years of age, of good family, with an insane heredity, two aunts and a twin sister being insane. She had always been in good health, except for habitual constipation, and was of a strong intellectual character, and fond of reading. Grief at a nephew's ill-conduct and at her mother's death, and the consequent change in her manner of life, caused her to become depressed. In October, 1882, she conceived the idea that she had acquired syphilis from indulgence in masturbation; she grew very despondent, demanded anti-syphilitic treatment, and finally made several attempts at suicide, which caused her friends to send her to Somerville. On admission, in December, she was extremely depressed, had headache and insomnia, and groaned a great deal; she thought she was contaminated and might communicate her disease. She continued in this way for two or three months; then she began to eat less, and made another attempt at suicide. She had, evidently, hallucinations of hearing, and still held to the delusion that she had syphilis. She gradually grew worse, groaned, and rubbed her hands constantly, slept very little, and was very incoherent in her speech. In June, 1884, she had to be sent to the excited ward; she continued in the same way, rubbed the hair off her head in places, and made several sore spots on her face. In September, she became quieter and talked naturally, but soon grew worse again. In February, 1885, she had the new delusion that her brother had formed some wicked design against her, and she thought she saw him about the grounds. About the same time, she wrote a perfectly intelligible and coherent letter to Dr. Cowles, asking for mercy, and speaking of some of her delusions. After this, she grew worse, groaned constantly, and was very noisy, and at last accounts, was still in a very bad condition, having lost much flesh and strength, and weighing but seventy-three pounds. The morphine treatment was tried, and it occasionally made her stupid, thus quieting her somewhat, but neither that, nor codeine, stimulants, cannabis indica, chloral, bromides, nor bromidia, had any permanent effect.

The second case was a woman of fifty, married, with a good family history. About the beginning of 1884, she became much depressed, and thought that she had lost much property, and that she had committed a great sin and was spiritually lost. She was sent to Danvers, and there, after a period of slight improvement, she became much agitated, lost flesh, and talked of suicide, although she made no attempts at suicide then. She was said not to have false hearing while there. In August, 1884, she was transferred to the McLean Asylum. On admission, she spoke of her delusions, was restless and agitated, and before long made an attempt at suicide. Her agitation increased, she used to walk the floor, moaning and rubbing her head, and often fell or threw herself out of bed, possibly with suicidal intent. She would not converse with the physicians. During this time, she took cannabis indica and bromide. In December, she began to take morphine, beginning with gr. 1-8, and gradually increasing the dose to gr. 9-16, three times a day. Soon after she became less agitated and could be reasoned out of her delusions for a time, although there were still periods when she was restless, agitated and noisy. From this time on, she steadily improved. In August, she was able to go to the cottage at Lynn for the day, and in September, she went away on a visit, enjoying herself very much. In December she was still away, and it was reported that she was much improved and did not want to come back. She was still taking morphine, though in a very small dose.

The third case was not reported. It was a case of melancholia, with delusions of poverty, and of having committed the unpardonable sin, in which treatment was of little benefit but recovery took place after four years' duration.

The importance of prognosis in such cases was then spoken of, and the reader considered the bad heredity and the fact that the delusions were firmly established, as important factors in judging of the prognosis in the first case. Where the prognosis was unfavorable, the morphine treatment did no good; but in the second case, the depression was temporarily arrested by the morphine, and the recuperative forces had time to act.

DR. PAGE said that, as a rule, cases of simple melancholia recovered, but that in cases of delusional melancholia, especially in patients over forty, and in women at about the period of the menopause, if the delusions became fixed, the prognosis was bad. Many of the cases of so-called "nervous exhaustion" sent to the Adams Nervine Asylum were really cases of simple melancholia, and most of them did well on over-feeding, and tonics without bromide. Clouston objected to opium or morphine in the treatment of melancholia.

DR. J. B. AYER spoke of a case of melancholia, coming on at the menopause, and following an attack of pneumonia, which was kept at home all the time. For three years the case seemed hopeless, but she now gets on without a nurse or special treatment at home. She took no morphine worth mentioning. He did not consider bromidia a good preparation for use as a domestic remedy, as each drachm contained gr. xv. of chloral.

DR. TUTTLE said that most of the cases of melancholia seen in hospitals were of the delusional form, but that since the introduction of the system of voluntary admissions, more mild cases were seen at the McLean Asylum. He considered false hearing an important element in the prognosis; where it persisted, the prognosis was usually bad, and the cases rarely got well. He had known of recovery in but three cases of the sort. Opium did good in some cases, but it could not be told whether it would act well in the individual case, except by trial. If a restless case can be quieted with it, it perhaps works well. The second case reported always went backwards on taking off gr. 1-8 from the dose, until the stimulus of going home began to act.

DR. TURNBULL said that there seemed very little that was tangible and available for prognosis in these cases. It seemed almost impossible to say why one case recovered and another did not.

DR. CHANNING thought that mild melancholia did better outside of an asylum than any other form of insanity. He considered false hearing a bad ele-

ment in prognosis. It was common in the simple melancholia seen in prisons. This "prison insanity" was of a depressed type, associated with anæmia and exhaustion; the patients often had delusions of persecution and false hearing. They rarely became excited, but occasionally made an assault. They usually masturbated, did poorly, and gravitated back to prison. The cases were generally chronic, and but a small percentage got well. He had tried codeia in one or two cases without special results. Schüle recommends opium in melancholia, and has had much success with it; Krafft-Ebing also advises it. He considered the acute forms of melancholia, with a good deal of physical disturbance, but without delusions, the most curable.

DR. TUTTLE, in answer to a question by Dr. Page in regard to over-feeding, said that at the McLean Asylum, when a patient would not eat, he was fed. Of late, they had tried giving half a pound of sugar with each meal, which, at least, caused the patient to gain flesh. He thought that codeia had less effect on the stomach and bowels, but that it did not brace a patient up like morphine. He considered the prognosis in mental diseases as mainly a guess, except in general paralysis, and there we could predict only the final result.

THE NEW YORK ACADEMY OF MEDICINE.

STATED meeting February 18, 1886.

DR. H. D. CHAPIN read a paper on

RHEUMATISM OF EARLY LIFE.

This, he said, was a subject which, in view of its great importance, had not received sufficient attention on the part of the profession. Although generally very insidious in its advances, it was an affection which was continually crippling children for life. He gave a *résumé* of the opinions of the principal authorities on diseases of children, and remarked that the most of them seemed to think it was not a very common disease in childhood. A few, however, spoke of its great frequency, and this he believed to be the correct view.

He stated that his remarks would be principally based on an analysis of 76 cases which had occurred under his own observation. The number of these at different ages are given as follows:

6 months	1	9 years	9
11 "	1	10 "	10
20 "	1	11 "	8
3 years	1	12 "	7
4 "	2	13 "	9
5 "	4	14 "	4
6 "	6	15 "	2
7 "	3	17 "	2
8 "	11		

During infancy the disease was apparently not very common. In his three cases occurring in infants of six, eleven and twenty months respectively, however, there were well-marked attacks of acute rheumatism, and the diagnosis was rendered the more positive by the fact that in each of the three instances one or both of the parents had also suffered from rheumatism. In regard to heredity he said that it seemed to him an undoubted fact that some state was inherited, which would develop rheumatism under favorable conditions. It was a rheumatic tendency that was inherited rather than the disease itself, as was the case in syphilis. Having referred to the statistics of other writers, he stated that in the great majority of his own cases either one or both of the parents had had rheumatism.

In early life rheumatism attacked more females than males. Of his own cases 50 were girls and 26 boys, and in 69 cases tabulated by Goodhart, 42 were in girls and 37 in boys. As to the part of the body affected, in 43 out of his 76 cases their lower extremities alone were affected, and in 40 of them the knees were involved. In 23 cases both the upper and lower extremities were affected, and in three the upper extremities alone. In two cases the plantar surface of the feet bore the brunt of the attack.

Pain, as a general rule, was not very severe. In children able to express their feelings, stiffness and soreness of the limbs, rather than acute pain, was complained of. There was generally little or no rise of temperature. A decided tendency to repetition was observed, and in one case there were as many as six distinct attacks. A general feature was marked hydræmia, and this was to be regarded an important factor both as regards diagnosis and treatment.

The absorbing interest in rheumatism in early life, however, centered about the heart. In 26 out of his 76 cases, or one-third of the whole number, there was organic valvular disease, and in 18 of this number there was a mitral regurgitant murmur. Of Goodhart's 69 cases, 15 had organic disease of the heart, and five other pronounced symptoms of organic disturbance. It was worthy of remark that endocarditis was by no means so serious in children as in adults, and therefore it might entirely escape attention. It appeared to him, he said, that the heart became affected only after several attacks of rheumatism; and hence it could be seen how very important it was to make an early diagnosis of the latter disease, and place the patient under appropriate treatment in order to ward off subsequent attacks, with increased danger of cardiac complication. The proportion of cases in which the heart became involved, as compared with the number in adults, had not as yet been definitely determined.

Chorea, as was now generally recognized, had a direct connection with rheumatism. In 38 cases of chorea which he had tabulated in a paper read before the New York Neurological Society in 1883, Dr. Chapin found that 22 had been preceded or were accompanied with rheumatism; and he thought it possible that the two affections, as well as the heart trouble so frequently met with in each, are due to a common cause. In many of his cases chorea did not appear until after several attacks of rheumatism. He had met with 15 cases in which acute tonsillitis appeared before, during, or after attacks of rheumatism. This association of the two affections could not be proven to be anything more than a coincidence; but it was so frequent as to have attracted the attention of a number of observers.

The diagnosis of rheumatism generally depended on the considerable number of corroborative symptoms, rather than the marked severity of one or two. As to the pathology of the disease the lactic acid theory was probably correct. There were in the system both the lactic acid resulting from fermentation in connection with faulty digestion and sarco-lactic acid, which was developed in the muscles.

In speaking of the treatment, Dr. Chapin said that it was highly important when it was hereditary to check the rheumatic tendency at the outset if possible, and to this end all appropriate hygienic and preventive measures should be adopted. In an attack of

rheumatism he was accustomed to commence the treatment with a dose of Rochelle salt, and follow it up with oil of winter-green and salicylate of sodium. If any disturbance of the heart was shown, he insisted on the most absolute repose in the recumbent position. When endocarditis or pericarditis was present, bodily exercise might be of the greatest possible mischief, as irreparable damage to the heart might ensue if prolonged rest was not secured. Rest enforced for several months he believed sometimes had a curative effect and prevented permanent injury of the organ. The long-continued use of such agents as iron and cod-liver oil was also to be resorted to.

DISCUSSION.

In the discussion which followed, which was under the auspices of the Section on Obstetrics and Diseases of Women and Children, Dr. J. LEWIS SMITH read a short paper, in which he said that he had notes of 73 cases of rheumatism in children. Whether there was or was not a *materies morbi*, such as lactic acid, in this affection, he had observed two principal exciting causes, namely: taking cold and scarlet fever. Inherited predisposition was also common. The disease was rare under the age of two years, but occasionally occurred. In most cases in children the symptoms were much less severe than in adults. It usually began in the lower extremities and thence extended upwards; but the reverse of this was true in scarlatinal rheumatism, where the trouble, as a rule, began in the upper extremities.

But however mild the attack might be, rheumatism was a dangerous malady in children on account of the liability to heart-trouble which characterizes it. Endocarditis might begin as early as the second or third day, and in one instance he had observed it on the very first day of the attack. If the child escaped this complication for the first week and proper remedies were kept up, the chances are that endocarditis would not occur at all. In 43 out of his 73 cases there was a mitral regurgitant murmur, and one case of embolism had been noted by him as a result of endocarditis. Pericarditis was much more rare than endocarditis, although there was little doubt that it was more frequently overlooked than the latter.

As to the association of chorea with rheumatism, out of 68 cases of chorea which he had noted, 26 of the patients had had rheumatism one or more times. Usually the rheumatism preceded, but occasionally the chorea set in as early as the latter. Of the other 42 cases of chorea, in 11 one or both parents, and in one other a sister, had had rheumatism. Therefore, in about 50 per cent. of his cases rheumatism was noted either in the patients themselves or in near relations. Dr. Smith said that he should like to emphasize what had been said in regard to the importance of making an early diagnosis, and placing the patient as soon as possible under appropriate treatment.

The best remedy he thought was salicylate of sodium. If given sufficiently early and in large enough doses, he believed that it would in a large number of instances prevent cardiac complications. He would recommend that it should be commenced on the first day, if possible, and given in doses of ten to fifteen grains to a child four or five years old. Given under these circumstances he had come to regard it as a specific. In cases, however, in which the disease had already continued for some time, its good effects were much less apparent. As to the origin of the lactic acid, provided this was the essential cause of rheumatism, he thought that Dr. Chapin was probably mistaken in attributing its formation to fermentation in the process of digestion, for the reason that in infants in whom the lactic acid fermentation was by far the most abundant, rheumatism was much more rare than in older children.

DR. MALCOLM MCLEAN said that he was inclined to believe that if the minute history could always be ascertained, it would be found that heredity was a factor in every single case of rheumatism. As to the so-called "growing-pains," he believed that they were invariably due to rheumatism, and that the physician should on this account not underrate their importance. In some cases of chorea he had observed an accelerated condition of the heart's action remaining, sometimes for years, after the choreic trouble had disappeared; although no cardiac disease could be detected by the most careful examination. This seemed to show an undoubted rheumatic element.

DR. L. EMMETT HOLT remarked that this typical rheumatism was very rare in children: but if pains were taken to discover it, it would be found that rheumatic disease was nevertheless very frequent in this class of subjects. In these indefinite cases it was necessary to seek out the attendant conditions, and inquire into the matter of heredity. There was a marked tendency among the later writers to trace a strong connection between quinsy and rheumatism. As to the ordinary follicular tonsillitis, however, he doubted whether there was any special connection between the two, as in 200 cases of the latter he had not been able to find any apparent association with rheumatism.

The President, DR. A. JACOBI said that heart-disease was very frequent in children, and this was due to two causes, *first*, sepsis, which was rare, and *second*, rheumatism, which was the cause in the vast majority of instances. The cases of congenital cardiac disease were those of the right side of the heart, and these usually terminated fatally at so early a period of life that it was not necessary to take them into consideration. As a rule, the younger the child was, the less prominent the joint affection in attacks of rheumatism. As to so-called "growing-pains," he thought a word of caution was necessary. Dr. McLean had remarked that the diagnosis of growing-pains ought never to be made, and when the parents mentioned that a child was suffering from such pains it should always be treated for rheumatism. It was no doubt true that such pains were very frequently of rheumatic origin; but they might be due to two other causes also. In the first place the affection might be a neurosis, and there was sometimes œdematous swelling about, but not in, the joint. Secondly, there was such a thing as *real* growing-pains. When the epiphyses and cartilages were developing rapidly, hyperæmia always resulted, and this might be so marked as to cause the pain complained of.

DR. J. LEWIS SMITH said in reference to the acceleration of the heart's action without appreciable cardiac lesion mentioned by Dr. John McLean, that he called to mind a case of this kind in which the autopsy showed the presence of well-marked endocarditis. Yet during life there had been no murmur whatever. He had presented the specimen to the Pathological Society, and the examination of the heart was made with great care by Dr. Francis Delafield. Endocardi-

tis was not necessarily accompanied by such lesions of the valves as to give rise to murmurs.

Dr. Chapin said that he wished those present would endeavor to assist him in collecting cases in which there had been evident valvular trouble which afterwards entirely disappeared.

Dr. Jacobi remarked that there were a certain number of cases in which a cardiac murmur disappeared after lasting perhaps only a day or two, or perhaps for a longer period. There were probably instances of simply a rheumatic murmur, and not really of endocarditis. What was taken for endocarditis was in fact rheumatism of the heart muscle. But in other cases there was true endocarditis, attended with a murmur, which after a longer or shorter period entirely, or almost entirely, disappeared. A heart in which this took place was not strictly a normal one, being larger than it should be; but compensation was so ample that no murmur resulted. This change usually took place a little after the age of puberty, and it was more liable to occur in males than females. Dr. Jacobi said he knew of several cases of this kind in the city, where the patients were now grown men, and entirely free from any appreciable cardiac trouble. Dr. Smith had called attention to the fact that endocarditis might occur without valvular disease. This was, no doubt, true; but in the larger number of cases of endocarditis without a murmur, the disease was probably of ulcerative character. In the ulcerative form of endocarditis the valves were affected, but the difficulty was not on top of the valves but at their insertion.

Recent Literature.

Hunterian Lectures on some of the Injuries and Diseases of the Neck and Head, the Genito-Urinary Organs, and the Rectum. Delivered before the Royal College of Surgeons of England, June, 1885. By Edward Lund, F.R.C.S., Member of the College and Court of Examiners of the College, Consulting Surgeon to the Manchester Royal Infirmary, Professor of Surgery in the Owens College. London: J. & A. Churchill. 1886.

These three lectures, on the subjects indicated by the title, give the result of the author's experience during a long surgical practice. They are eminently practical, dealing only with such cases as have fallen to the lecturer for treatment and giving the success and failure which he met with. They have all the charm that belongs to autobiographical writing. No surgeon can read the lectures without being entertained as well as instructed; and we feel sure that few Americans can read the little book without wishing that lectures of the same kind that should induce men to lay before their brethren the experience of their lives, were more numerous in this country.

— We observe by the daily press, that a Newark doctor who has kept watch over some dogs bitten by one of the same rabid creatures that snapped at the children who were sent to Paris to be treated by Pasteur, is prepared to swear that the cur was not mad at all. His bitten dogs have grown fat, and have thus far shown no signs of rabies.

Medical and Surgical Journal.

THURSDAY, MARCH 11, 1886.

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ARSENICAL WALL-PAPERS.

Our readers will notice from an article in another column that an order has been introduced in the Massachusetts Legislature which, in substance, directs the committee on public health to consider whether or not any legislation is necessary relative to the presence of injurious substances in wall-paper. Attempts have heretofore been made in this State to secure legislation prohibiting the manufacture and sale of papers containing arsenic. Determined and well-organized opposition on the part of the manufacturers and dealers has rendered all such attempts unsuccessful; but the repeated agitation of the subject, not only in this country but in Europe, has added much to our knowledge regarding the extent of the use of arsenical pigments at the present time in the manufacture of wall-papers and regarding the deleterious effects which result from such use.

The matter is one of great importance in its relations to the public health and has received the careful consideration of competent scientific authorities. It seems proper at this time therefore, to state briefly such facts in regard to the subject as, in our opinion, are established by competent evidence, and to consider if the opposition to legislation rests upon any substantial foundation.

The demand for legislation is based essentially upon two considerations: (1) that arsenical pigments are used very extensively at the present time in the manufacture of wall-papers; (2) that arsenic, when thus used, is very deleterious to the public health, giving rise frequently to disagreeable and sometimes to dangerous symptoms.

It is not denied, we believe, that arsenical pigments have been used in times past in the manufacture of wall-papers; but one of the main arguments made use of by the manufacturers, in their opposition to legislation, is that no arsenic is used at the present time. It is without doubt true that compounds of arsenic, such as Scheele's and Schweinfurt green are not much used nowadays in the manufacture of paper-hangings. The dangerous character of these pigments is now so well

recognized that they have been largely replaced by other pigments. It is a fact, however, easily demonstrated by chemical analysis that a large number of the pigments used in the manufacture of paper contain arsenic, either because arsenic has been used in the manufacture of the pigment, and not removed subsequently, as is sometimes the case with the aniline colors, or because some compound of arsenic has been purposely added to the color by the color manufacturer.

It is probable that most of the manufacturers are ignorant of the exact chemical composition of the pigments used by them. They may, therefore, not be aware of the fact that many of their pigments contain arsenic: and it is reasonable to suppose that some of those who guarantee their papers free from arsenic, do so in good faith simply on the strength of their belief that they are using non-arsenical colors. It is obvious however, that any guarantee of this kind is worthless. If it is not based upon a trustworthy analysis of the paper or of the materials used in its manufacture, it does not afford the public the protection which it asks. That arsenical pigments are extensively used in the manufacture of wall-papers is evident from the experience of chemists in Boston alone, which shows that about twenty-five per cent. of the samples submitted for analysis are arsenical. Among the arsenical papers it is not unusual to find some which are guaranteed, by the manufacturer, free from arsenic. Reference to an article by Dr. E. S. Wood, published in the public health supplement to the Fifth Report of the State Board of Health, Lunacy and Charity of Massachusetts shows that the amount of arsenic in these papers may be as high as six to seven grains per square yard, and that one color is as liable to be arsenical as another.

A favorite argument of the opponents of legislation on this subject is that the presence of arsenic, assuming it to be present, is accidental and unavoidable; that it is derived from the size used in the manufacture of the paper. This is, however, an unimportant source. That traces of arsenic may occasionally be explained in this way is very likely true. Analysis, however, shows that the arsenic exists in the color in most cases. Moreover, the amount of arsenic is, as a rule, entirely inconsistent with the theory that it is derived from the size. Assuming, however, that it is a constituent of the size, it is just as dangerous as though it existed in the pigments.

The evidence regarding the deleterious effects of arsenical wall-papers is very conclusive to an unprejudiced mind. A very large number of well-authenticated cases of wall-paper poisoning are recorded. Many of these are readily accessible for reference, since they have been incorporated into Dr. Wood's article; but besides these, numerous cases are to be found in the medical journals. An analysis of the symptoms in these cases show that the arsenic acts upon the system both locally and constitutionally. The first symptoms are the result of the local action of the arsenic, and consist of irritation of the mucous membranes of the eyes, nose and throat, dry cough, loss of appetite, nausea, a feeling of uneasiness in the stomach and intestines, and sometimes vomiting and diarrhœa. Among the latter symptoms produced by the constitutional action of the poison are headache, sleeplessness, muscular debility, depression of spirits, attacks of dizziness and neuralgic pains in various parts of the body. These symptoms are undoubtedly due in many cases to the inhalation of minute particles of arsenical dust. Repeated analysis of the dust which has collected in rooms papered with arsenical papers show conclusively that such arsenical dust is continually detached from the paper. It is proven, however, that under certain conditions, a portion of the arsenic in wall-papers is given off in the form of arseniuretted hydrogen; and it is the opinion of competent authorities that the symptoms, in many cases are due in part, at any rate, to the inhalation of this exceedingly poisonous gas. All the symptoms described will not be observed in every case since they are subject to many variations, depending especially upon the length of exposure and upon idiosyncrasy.

It has been argued that, as the number of persons exposed who experience symptoms of poisoning is comparatively small, there is no necessity for legislation. This is, in our opinion, an unimportant objection. In many cases the symptoms have undoubtedly been attributed to other causes, inasmuch as the catarrhal symptoms resemble those of an ordinary cold, while the gastro-intestinal irritation, if comparatively mild, may readily be attributed to indigestion. There is good reason, therefore, for believing that the number of cases which occur is in excess of those which are reported.

The positive evidence which we have at the present time leaves no room for doubt in unprejudiced minds that some legislation on this subject is necessary. The question has been strongly agitated in Europe and the strict regulations which exist in some of the European countries show that the present agitation in Massachusetts is not a merely local affair. In Germany the sale of arsenical paper-hangings is punished by a fine of one hundred and fifty marks; and, if we understand the law correctly, the seller of an arsenical paper is, in addition, liable to imprisonment upon proof that any injury to health has resulted from such arsenical paper. The Swedish law is exceedingly stringent prohibiting the sale of wall papers containing more than one four-thousandth (approximately) of a grain of arsenic in sixteen square inches. In both Baden and Bavaria the use of arsenical colors in the manufacture of wall papers is prohibited.

We cannot see that legislation will in any way prove detrimental to the manufacturers. It is conceded that arsenical pigments are not essential in the manufacture of wall papers, and that non-arsenical pigments of any color can be obtained of satisfactory brilliancy and durability. We do not consider it necessary that the prohibition of arsenic should extend to minute traces, which are frequently unavoidable on account of the

wide diffusion of small quantities of arsenic. A committee of the National Health Society of Great Britain, in a report presented to the Society in 1883, concluded as a result of their investigations, that an allowance of 0.001 grain per sample of sixteen square inches would be ample for accidental and unavoidable contamination; and that this quantity would not be injurious to health. The manufacture of papers which shall come within this limit is practicable and can be reasonably demanded. In fact a large proportion of the wall paper made at the present time comes within this limit. Certain of the English manufacturers take great pains to exclude all arsenical colors; and they are so successful that it is only rarely that one of their papers is found which contains more than the merest trace of arsenic.

It is highly important that the method of analysis to be employed in testing papers should be clearly defined. It is a matter of frequent occurrence that papers which are guaranteed, by the dealers free from arsenic, are found to be highly arsenical. A failure to detect arsenic in an arsenical paper is presumably due to the employment of inaccurate methods of analysis. It is, we think, very evident that a law which prohibits the manufacture and sale of arsenical papers, but at the same time allows the chemist to employ a method of analysis which fails to detect arsenic in a paper containing three to five grains per square yard, will afford the public but little more protection than it has at present.

THE CAUSATION OF PLEURISY.

Germain Sée in his most recent work on "Simple Diseases of the Lungs," arranges the numerous varieties of pleurisy into two great categories: (1) Pleurisies by propagation; (2) Pleurisies by infection. The group of pleurisies from cold (pleurisy *à frigore*, or idiopathic pleurisy) he divides up, apportioning a part to the first category and a part to the second. He denies that cold is, properly speaking, a *cause* of pleurisy, and thinks that it can only favor the development of pleural inflammation by permitting the real cause to act more rapidly or more efficaciously.

Pleurisies by propagation take their origin from lesions of the thoracic walls, thoracic organs or neighboring viscera. Among the parietal lesions are osteoperiostitis, costal caries, parietal phlegmon and even cancer of the mamma. Other propagating lesions are broncho-pulmonary inflammations (pleurisy is a constant accompaniment of acute fibrinous pneumonia); pericarditis (especially when the latter is due to rheumatism); hepatic affections, such as acute hepatitis, hydatic cysts of the convex surface of the liver, atrophic or hypertrophic cirrhosis: here the pleurisy is generally right sided and the propagation takes place by the lymphatics.

Among the pleurisies by infection, first in the order of importance and frequency is tuberculous pleurisy. Tuberculosis is a very common etiological condition of pleurisy, being the determining cause in three-fourths of the cases, according to Professor Sée. Fiedler's statistics in this regard are very instructive; out of 112 cases of pleurisy treated by thoracentesis, only 21 recovered — of the 91 other patients, 25 died of phthisis at the hospital or at their homes, 66 got well of their pleurisy but were found to be victims of confirmed phthisis or other tuberculous affections.[1] Pleurisy has also been known to supervene in the course of diseases unquestionably rheumatic, and hence in these cases might properly be ascribed to the rheumatic virus, which Sée considers of an infectious (microbiotic) nature. Lastly, all the infectious diseases properly so called — scarlet fever, measles, surgical or puerperal pyæmia, typhoid fever, small-pox, blennorrhagia, etc., may be attended with pleurisy as a part of their manifestations.

As for the pleurisy which so often accompanies chronic Bright's disease, two explanations may be given. Either the pleurisy is the result of the pulmonary lesions which are so frequently a concomitant with Bright's disease, or else it developes in consequence of the general hæmic alterations of that disease which provoke pleurisy as they do inflammations of other serous membranes. If the latter explanation be the correct one the pleural inflammation would belong to Sée's second category.

The views of the French professor will not probably be generally accepted, as there doubtless do occur cases of simple acute pleurisy which are more easily referred for their origin to exposure to cold than to any other cause. Yet it is quite possible that such cases are fewer than one would suppose, and that pleurisy in this respect resembles peritonitis which is rarely idiopathic, and rarely *à frigore*.

MEDICAL NOTES.

BOSTON.

— Dr. H. J. Bigelow has declined to accept the appointment which was tendered him at the Massachusetts General Hospital as "surgeon emeritus," and also the five beds which were placed at his disposal.

— Dr. David Hunt gave an interesting talk before the members of the Boston Medical Library Association last Friday evening, on the subject of engravings in relation to medical men and medical science. The speaker illustrated his remarks freely by an exhibition of a wide range of engravings on professional subjects and of doctors of varying degrees of note and notoriety.

— In the third annual report of the West End Nursery and Infants' Hospital recently presented, the directors, on behalf of the corporation, express their most grateful acknowledgment of the kindness and liberality of those whose aid has enabled them to carry on the work of the institution during so much of the past year. Although obliged to close the Nursery four

[1] Cited by Sée.

months on account of lack of means, during the remaining seven of the eleven months included in this report, one hundred and sixteen infants and thirty-three mothers have been cared for. The objects of the institution are these: 1. The cure of disease, or alleviation of suffering in children under two years of age. 2. The prevention of suffering and disease by securing proper care to infants. 3. The teaching to mothers the proper care of infants, especially in regard to the proper methods of artificial feeding. The directors make, in behalf of the enterprise, the following appeal:

We are especially anxious to secure annual subscriptions. However little sum you may be inclined to give, will you not help that little? If we can secure the necessary amount for the annual expenses from donations, we can hope from other sources, which have aided us in the past, to pay the mortgage on the building now owned by us, and in the future, possibly secure a new and properly-arranged building. The annual cost of the maintenance of a free bed for mother and child is $250; an annual donation of this amount makes the giver a member of the corporation, and entitles him to have the bed occupied by any suitable case he may recommend. An early reply to this appeal is solicited, in order that the directors may decide on the possibility of the continuance of the work of the institution.

Subscriptions may be sent to Dr. H. C. Haven, No. 19 Exeter Street; or to William Minot, Jr., No. 39 Court Square.

NEW YORK.

— The Commencement exercises of the American Veterinary College were held at Chickering Hall, March 1st, when diplomas were conferred on twenty-eight graduates.

— The forty-fifth annual Commencement of the Medical Department of the University of the City of New York was held at the Academy of Music, March 6th, the graduates numbering one hundred and seventy-three.

— The sum of $4,160 has been received at Newport for the payment of bequests made in the will of the late Charles Henry Russell, of New York. Of this amount, $2,080 goes to the Home for Friendless Children, and $1,080 to the Newport Hospital.

— Dr. Gaspar Griswold, Demonstrator of Anatomy in Bellevue Hospital Medical College, and one of the most accomplished and best known of the younger physicians of New York, died of acute peritonitis, after a five days' illness, on the 4th of March. He was born in the city April 24, 1856. He was the only son of the late James Clinton Griswold, and was graduated from Columbia College in 1876. While in College, he distinguished himself in athletics, as well as in scholarship, and was a member of the famous crew which won the intercollegiate regatta at Saratoga in 1874. After completing his medical studies (graduating from Bellevue Hospital Medical College, in 1878), he became an interne of Bellevue Hospital, passing the best competitive examination of the year. When he had completed his term of service at the hospital, where he showed himself a physician of more than ordinary accomplishments and ability, he continued his medical studies in London, and became a member of the Royal College of Physicians. After his return to New York, he was taken into partnership by Dr. Fordyce Barker, and since then, has been actively engaged in successful practice. He was a Fellow of the New York State Medical Association and New York Academy of Medicine, and a member of the New York County Medical Association, the New York County Medical Society, and the Clinical Society; and his funeral, which was held at Zion Church March 6th, was largely attended by his professional and other friends.

— The State Board of Health met on March 3d, at the Murray Hill Hotel, when Dr. Louis Balch, who has been for some time Secretary of the Albany Board of Health, was chosen Secretary, in the place of Dr. Alfred L. Carroll, resigned. Dr. T. C. Curtis, the Acting Secretary, reported the work done at the Central Office since the last meeting, and gave an account of the efforts made to ascertain the cause of the recent epidemic of typhus fever in the Albany Penitentiary. The origin, he said, had not been successfully traced, but the outbreak was now entirely suppressed. It is supposed that the first case was imported from New York, as that was the only place in the State where the disease existed at the time. The results of vaccination throughout the State, to ward off the threatened invasion of small-pox from Canada, were, the Secretary reported, extremely gratifying, and in this connection, he said: "Two facts have been demonstrated: first, that vaccination is a certain preventive of small-pox; and second, that the virus furnished by the New York Board of Health is most efficacious."

Mr. James T. Gardiner, the consulting engineer of the Board, made an elaborate report on the bad sanitary condition of the new Capitol at Albany. At the last meeting of the Board, Dr. Millbank, of the State Insurance Department, reported that he had been attending a number of cases in that department, which he believed to be due to filth poisoning, and it was in consequence of this, that Mr. Gardiner made a thorough examination of the entire building. He found it in a deplorable condition, both as regards ventilation and drainage, the air-shafts, for instance, being placed so near the soil-pipes on the roof, that the strong suction down the former draws down the foul gas escaping from the latter, and distributes it throughout the entire building, while the drainage-pipes in the basement are wholly inadequate. An appropriation for remedying the defects will be asked for at once.

The Executive Committee presented a report on beer, which contains the tabulated results of the examination of nearly five hundred samples, purchased in open market throughout the State, which was made at the request of the Board, by Prof. F. E. Englehardt, of Syracuse. The report points out that there is no legal definition of what constitutes normal beer, nor any standard established by the authorities on the subject, and makes the following recommendations:

That the law be amended so as to define the normal condition of malt beverages. That a malt beverage should, as its name indicates, contain only malt, hops, water, and yeast, and their constituents. That Con-

gress should pass a law making it obligatory upon the Internal Revenue Department at all times, to permit publicity to be given to the ingredients reported by the brewers and dealers of malt beverages. That local Boards of Health throughout the State should have special control over breweries within their jurisdiction; should visit them, and report publicly upon the condition of these establishments. That nothing but pure water should be allowed in the brewing of malt beverages. That local Health Boards of the State should have special supervision over saloons; should have samples purchased of the beverages sold, and forward the same for examination, and that arrangements should be made that the expense of such analyses should be defrayed by the Board of Excise. That no condition of secrecy should be imposed in the law relating to beer, spirituous, or malt liquors, and that it should be admissible, in case any sample be found impure, to make the matter public.

CHICAGO.

— The forty-third annual commencement exercises of Rush College took place at Central Music Hall on the 16th ult. The graduates in a regular course numbered 156; the Honorary degree was conferred on five gentlemen: Dr. Daniel Hack Tuke, of England; Dr. Grant, of Cairo, Egypt; Dr. Haeker, of Hamburg, Germany; and Drs. Hanna and Sheffield, of Illinois.

The annual dinner given by the Faculty to the Alumni occurred in the evening, over four hundred of the Alumni being present. The attendance of students at this school the past term was something over four hundred.

— A few months ago, the organization of a Polyclinic was announced, independent of any other medical school. Now there has been formed another school of this class, to be known as the *Post-Graduate Medical School of Chicago.* It appears to have been created to take the place of the Practitioners' Course of Rush College, and it combines the clinical teaching of the College, the Central Free Dispensary, the Presbyterian Hospital, the Eye and Ear Infirmary, and to a degree, the County Hospital, in addition to the laboratory work of the College. No announcement has yet been issued, but the school will probably be in session during June, July, and August of each year. The fate of this school remains to be seen, but it has the good fortune to be able to start upon what it has, and without the building up of any clinic, or dispensary, or hospital, or the expenditure of money for buildings, and apparatus and furniture. If it does not succeed, it will not be owing to a lack of facilities and material for teaching.

— The *Chicago Hospital for Women and Children,* which has, since the great fire, occupied a moderate-sized dwelling-house on the corner of Ogden Avenue and Adams Street, has just moved into its new and commodious building situated on the same ground. The new hospital will increase the capacity of the institution many fold. It is a substantial, plain, brick structure; is provided with many modern devices for rendering hospitals free from danger to the sick, including the construction of the laundry and mortuary in a separate building, which also has isolation wards for infectious cases, and is, altogether, a credit to the friends of the institution and to the city. The hospital was founded nearly twenty years ago by Dr. Mary H. Thompson, who has always been its chief surgeon, and it has never had a regular attending physician or surgeon who was not a woman. It has a consulting staff of masculine doctors, but from the first, the design was to furnish an opportunity to women physicians to practise the art, as well as to care for sick women and children, and this purpose has never been deviated from. Dr. Sarah Hackett Stevenson is the attending physician.

Miscellany.

RECENT LEGISLATION IN MASSACHUSETTS ON SUBJECTS OF PUBLIC HEALTH..

LEGISLATIVE Committee hearings were continued last week upon the subject of water gas, in which Health Officer Abbott and Professor Sedgwick repeated the evidence already published in the Health Supplement of the Annual Report of the State Board of Health, Lunacy and Charity.

The Committee on Public Health also continued the hearings upon the petition for legislation to forbid the manufacture and sale of wall-papers containing poisonous substances. On Tuesday March 2, testimony was given by Professors D. G. Lyon, Henry B. Hill, Charles R. Sanger and Walcott Gibbs, besides persons who had had personal experience of poisoning from arsenical papers, and numerous letters were read in support of the petition.

On Thursday last further testimony to the same effect was offered. Professor Lyon read a letter from Professor Kinnicutt of the Worcester County Free Institute of Industrial Science, in which the latter says that of 126 wall-papers examined by him twenty-six contained more arsenic than is allowed by English chemists, fifty contained arsenic in smaller quantities, and only fifty were free from it.

Dr. Edward S. Wood of Harvard Medical College, the author of "Arsenic as a Domestic Poison," in a recent State Board of Health Report, said that since this paper was published evidence had increased largely. The contact of arsenical compounds attacked the mucous membrane of the eye, throat, mouth and stomach, after which the nervous system was undermined, the results being shown in nervous headache and all sorts of neuralgia. All these symptoms ceased or decreased when the sufferer left the house containing the arsenical paper. His investigations had convinced him that the use of arsenic is not necessary in the manufacture of wall-papers, and it did not seem that a law limiting the amount of arsenic to one-half grain per seven square yards, as under the English law, would be unjust to the manufacturers. This quantity of arsenic could be detected by the Berzelius-Marsh test. He had never found, except in one instance,

traces of poison in carpets. Senator Harlow here suggested that the petitioners might have the scope of their petition extended to include fabrics other than wall-papers. On cross-examination Professor Wood said he had found arsenic in calico and in cretonnes, but none in silks. In his opinion it is not essential to employ arsenic in the manufacture of any of these fabrics. If a law were passed defining the limit of arsenic permitted, the form of that test should be stated. Arsenic is sometimes put into paste to prevent its souring.

A draft of a bill was submitted by Professor Sanger, prohibiting the manufacture and sale of wall-papers containing more than one-fourth of a grain of arsenic to the square yard, and permitting the sale of such papers containing not more than one-fourth grain to the square yard. Mr. Bailey also submitted a bill prohibiting more than 1-100 of a grain to the square foot, under penalty of not less than $50 for the first offence and $100 for subsequent offences. The remonstrants will be heard on Friday, 12th.

The Public Health Association also gave a second hearing on the subject of the amendment of the existing laws as to the inspection and sale of milk. Milkmen were heard as to the injustice of the present standard of 13 per cent. solids, claiming that with some cows and at certain seasons, even pure milk did not reach that standard. One contractor stated that he agreed to furnish the City Hospital with milk having 13½ per cent. solids, but it is under verbal understanding that the percentage was higher than could be reached, and that the firm shall only be required to give pure milk.

The bill to prohibit the selling or giving of tobacco to persons under the age of 16 years, which passed the House a few days ago, was passed to be engrossed by the Senate, the vote standing 18 to 14.

Correspondence.

LETTER FROM VIENNA.

HYPNOTISM IN LABOR.— CORROSIVE SUBLIMATE POISONING.

VIENNA, February 23d, 1886.

MR. EDITOR,— In your issue of January 21st, an account is given of a case of labor under hypnotism. While the details of the case are correctly given, the honor of employing these means, should, in my estimation, be given to an American, Dr. Chas. S. Sargent, of Boston, at the present time pursuing his studies here.

Having visited Paris previous to coming to Vienna, Dr. Sargent had the opportunity of studying hypnotism and its effects under Professor Charcot. It seemed to him that these means might be applicable in lessening the pains in childbirth, and while working in the wards of Professor C. Braun, he asked permission of Dr. E. Pritzl to experiment upon a patient, which being given, the experiment was performed with success.

Permission was also given to hypnotise when this patient was in labor, but at the time Dr. Pritzl performed the experiment with the result as stated. The two other cases reported were not delivered under hypnotism but were only experimented upon with indifferent success.

As too much care cannot be exercised in the use of corrosive sublimate, and too much attention cannot be given to the administration of intra-uterine injections, the following notes of a case in Carl Braun's Clinic may not be amiss.

Frau F., twenty-three years old, second child, presented herself at the hospital, being in labor. Temperature 38.3°C Central vaginal examination showed transverse position, head on the left, back to the front, with cord pulseless; version was performed with extraction. As there was a suspicion that the rise in temperature might be due to some intra-uterine trouble, an intra-uterine injection of corrosive sublimate [1-2000] was given after the extraction, and the placenta was expressed. Ordinarily when corrosive sublimate is used here another injection of water is given to guard against poisoning, but during the injection of the sublimate the patient had a collapse with unconsciousness, etc.; the irrigation was stopped and means taken to relieve these alarming symptoms. Within half an hour she recovered and then the uterus was washed out with water. The next three days the temperature fell to 37°C.; On the second day she had diarrhœa, on the fourth stomatitis, and on the sixth she suddenly died. The autopsy showed signs of the poisoning, as did also chemical examination.

Very truly yours, I. LOUIS, M.D.

THE IMPROVEMENT SOCIETY'S REPORT ON THE MASSACHUSETTS MEDICAL EXAMINER SYSTEM.

GLOUCESTER, March 6, 1886.

MR. EDITOR,— Apropos of Dr. Fifield's paper on the Medical Examiner System, and the report of a committee to the Boston Medical Improvement Society on the same subject, both published in the JOURNAL, I would beg your readers to refresh their memories upon one case, the subject of criticism, by referring to the number of the JOURNAL for November 9, 1882, in which on page 436 *et seq.* is a very able paper upon the case in question by the Medical Examiner under whose notice it came.

Very respectfully, GEORGE B. STEVENS, M.D.

NORFOLK COUNTY, March 5, 1886.

MR. EDITOR,— I perceive on reading the report of the committee of the Medical Improvement Society on "Medical Examiners in Massachusetts," as published in last week's issue of the JOURNAL, that an oversight was made by the committee in not discovering that the *second* instance of incompetency investigated by them occurred under the *coroner* regime, and consequently if there was any failure of duty at the autopsy it did not lie at the door of the medical examiner. It may, however, be said of this case, in the language of Dr. Fifield concerning that other case of his, alluded to by the committee as the *fourth* instance, that "conviction and sentence of the criminal duly took place."

The reference by Dr. Fifield is without doubt to the celebrated case of Julia Hawkes whose dead body was found in Monatiquot river several years since, with a bullet hole in the head and a tailor's goose tied to the feet. As shown at the trial, the death probably occurred outside of Norfolk County. Very truly yours, MEDICAL EXAMINER.

[We understand that, as the committee was refused information as to the particular "instances" referred to in the paper of Dr. Fifield, its members did not feel at liberty to go behind the written words and surmise to which cases the criticisms applied, although there might have been no great difficulty in doing so.— ED.]

RELATION OF THE SPLEEN TO THE STOMACH.

AUGUSTA, ME.

MR. EDITOR,— The following suggestions in regard to the possible function of the spleen have occurred to me. Briefly recall to mind something of the anatomy of the spleen, especially in connection with the stomach.

Situated as it is in the left hypochondriac regions embracing the cardiac end of the stomach and held in position by the gastro-splenic omentum and suspensory ligament, its function would naturally be closely related with the stomach. Having no secretory duct to indicate its function, it is classed by anatomists with the ductless glands, and its office in the economy appointed alone on theory. The spleen is composed of such elastic structure as to allow of the considerable changes occurring in its size.

Its increase during and after digestion is a well-known fact. This we know to be the result of an engorgement of blood. As to its blood supply we need but to recall the large size of the splenic artery and the great vascularity of the organ itself. This blood is returned through the splenic vein which constitutes the largest branch of the portal vein. The splenic artery is in such relation, by its origin from the cœliac axis and by branches to the stomach, as to be capable of greatly influencing the blood supply of that organ.

We find its nerve-supply, the pneumogastric and semilunar ganglia, such as to render it in close sympathetic relation with its neighbor, the stomach, controlled by the same centre.

By a controlling nerve centre closely allied to that of the stomach the condition of the spleen appears to be regulated correspondingly. By this nerve-system the digestive turgescence seems explicable, and may it not be in ratio inversely to the flushed condition of the gastric membrane during its activity?

In view of the fact that the spleen may be wholly removed from an animal without any obvious changes in the economy taking place, might we not with propriety ask, is not its office solely mechanical and one of great importance, namely, that of a regulator of blood supply to the stomach? It seems obvious that such a regulator is necessary to an organ subject to such varying conditions — at one time the receptacle of hot drinks, tea and coffee, taken at a temperature little below scalding, and again of large draughts of ice water. What is to prevent serious congestion or depletion, or to afford a ready supply in aiding the digestion of a hearty meal, if not this balancing medium?

So we offer this special and sufficient function of the spleen — an organ attendant to the stomach, a diverticulum of its blood supply, standing ever in an inverse relation in this respect to the needs of the stomach.

Yours truly, H. L. JOHNSON, M.D.

FT. BIDWELL, CAL., Feb. 14, 1886.

MR. EDITOR, — I am engaged in the preparation of a "Compendium of the Surgical History of the War of the Rebellion," designed as a hand-book for military surgeons, and desire to consider at some length, "Injuries of the Bloodvessels," the remote effects of gunshot wounds in general, and the ultimate results as regards the functional utility of the limbs treated by conservation and excision in particular. Inasmuch as many of the survivors have doubtless come under professional observation at this late date, it is hoped that the observers will render a service to military surgery and to me personally, by communicating unpublished data, which will be gratefully acknowledged.

Respectfully, GEORGE M. KOBER,
Act'g Ass't Surgeon U. S. Army.

REPORTED MORTALITY FOR THE WEEK ENDING FEBRUARY 27, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Scarlet Fever.	Diphtheria and Croup.	Whooping Cough.
New York	1,340,114	697	259	15.26	14.42	1.26	6.72	2.52
Philadelphia	927,995	375	113	9.72	17.82	.54	5.67	.54
Brooklyn	644,526	285	112	17.85	15.40	4.90	7.00	2.10
Chicago	632,100	—	—	—	—	—	—	—
Boston	390,406	136	47	8.88	19 24	.74	5.92	—
St. Louis	408,520	157	45	10.24	16.00	—	1.28	1.28
Baltimore	400,000	—	—	—	—	—	—	—
Cincinnati	272,400	106	29	9.43	20.68	1.88	4.70	.94
New Orleans	234,000	—	—	—	—	—	—	—
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	96	32	6.24	18.72	1.04	1.04	—
Pittsburgh	180,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	—	—	—	—	—	—	—
New Haven	62,882	—	—	—	—	—	—	—
Charleston	52,286	38	9	2.63	13.15	—	—	2.63
Nashville	54,400	20	5	—	20.00	—	—	—
Worcester	68,383	18	11	11.11	11.11	—	5.55	—
Lowell	64,051	34	10	—	—	—	—	—
Cambridge	59,660	14	5	—	—	—	—	—
Fall River	56,863	18	7	—	—	—	—	—
Lynn	45,861	15	—	—	—	—	—	—
Lawrence	38,825	11	5	9.09	27.27	—	9.09	—
Springfield	37,577	—	—	—	—	—	—	—
New Bedford	33,393	15	3	—	—	—	—	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	10	1	10.00	20.00	—	—	—
Holyoke	27,894	7	4	14.28	14.28	—	14.28	—
Chelsea	25,709	9	2	11.11	11.11	—	—	—
Taunton	23,674	7	2	52.84	14.28	—	14.28	—
Haverhill	21,795	7	2	14.28	14.28	—	14.28	—
Gloucester	21,713	3	2	33.33	33.33	—	33.33	—
Brockton	20,783	—	—	—	—	—	—	—
Newton	19,759	6	3	16.66	16.66	—	16.66	—
Malden	16,407	8	3	12.50	37.50	—	—	—
Fitchburg	15,375	5	0	—	—	—	—	—
Waltham	14,609	5	2	—	20.00	—	—	—
Newburyport	13,716	2	0	—	50.00	—	—	—
Northampton	12,896	3	0	—	66 66	—	—	—
82 Massachusetts Towns	—	40	7	7.50	17 50	—	5.00	—

Deaths reported 2,047: under five years of age 720; principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 268, consumption 347, lung diseases 343, diphtheria and croup 120, whooping-cough 31, scarlet fever 20, typhoid fever 21, diarrhœal diseases 21, malarial fever 29, cerebro-spinal meningitis, nine, erysipelas five, small-pox four, measles four, puerperal fever four. From typhoid fever, Philadelphia eight, Baltimore three, New York and Brooklyn two each, District of Columbia, Lowell, Salem, Taunton and Malden one each. From diarrhœal diseases, New York seven, Brooklyn five. Boston three, Cincinnati and Lowell two each, District of Columbia and Holyoke one each. From malarial fever, New York 13, Brooklyn four, Baltimore three. From cerebro-spinal meningitis, New York three, Baltimore two, Philadelphia, Worcester, Fall River and Taunton one each. From erysipelas, New York three, Philadelphia and District of Columbia one each. From small-pox, New York four.

Cases reported in Boston: diphtheria 24; scarlet fever 21; and typhoid fever three.

In 103 cities and towns of Massachusetts, with a population of 1,339,159 (population of the State 1,941,465), the total death-rate for the week was 14.83 against 15.96 and 16.14 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending February 13th the death-rate was 25.1. Deaths reported 4,024: infants under one year of age 882; acute diseases of the respiratory organs (London) 584, whooping-cough 188, measles 67, diarrhœa 46, fever 43, scarlet fever 30, small-pox (Liverpool) three.

The death-rates ranged from 14.7 in Huddersfield to 30.9 in Preston; Birkenhead 23.5; Birmingham 19.6; Hull 18.3; Leeds 19.2; Leicester 15.3; Liverpool 24.4; London 24.9; Manchester 29.1; Nottingham 20.8; Sheffield 18.6; Sunderland 22.1.

In Edinburgh 18.7; Glasgow 29.8; Dublin 38.6.

For the week ending February 13th in the Swiss towns, there were 31 deaths from consumption, lung diseases 27, whooping-cough 10, diphtheria and croup seven, small-pox two, measles one.

The death-rates were: at Geneva 13.3; Zurich 28.6; Basle 18.5; Berne 24.6.

The meteorological record for week ending February 27, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps: —

Week ending Saturday, Feb. 27, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday,...21	29.934	18.6	23.2	8.4	47.0	34.0	80.6	53.7	N.W.	W.	W.	16	10	10	C.	O.	O.	—	—
Monday,...22	30.085	21.2	26.6	10.2	72.0	70.0	75.0	72.3	N.	S.E.	S.W.	9	7	8	F.	C.	C.	—	—
Tuesday,...23	29.988	33.8	45.1	21.0	76.0	53.0	68.0	65.7	W.	N.W.	N.W.	17	18	12	O.	F.	C.	—	—
Wednes., .24	29.423	16.5	27.8	12.4	53.0	38.0	57.0	49.3	N.	N.	N.E.	16	15	6	C.	C.	C.	—	—
Thursday, 25	29.568	33.3	46.0	14.4	65.0	94.0	100.0	86.3	S.	S.E.	S.W.	11	19	16	F.	K.	R.	—	—
Friday, ...26	29.112	19.9	47.7	8.7	100.0	89.0	68.0	85.7	N.W.	N.W.	N.W.	30	36	35	N.	O.	O.	—	—
Saturday, .27	29.515	9.2	13.5	4.0	62.0	54.0	60.0	58.7	N.W.	N.W.	N.W.	40	44	32	F.	O.	F.	30.0	0.83
Mean, the Week.	29.834	27.5	32.7	11.3				67.4											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; K., Sleeting; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM FEBRUARY 27, 1886, TO MARCH 5, 1886.

WILLIAMS, J. W., major and surgeon. Ordered for duty as post surgeon, Vancouver Barracks, Washington Ter.

MUNN, C. E., captain and assistant surgeon. Ordered for duty as post surgeon, Fort Cœur d'Alene, Indian Ter.

WOOD, M W., captain and assistant surgeon. Ordered for duty as post surgeon, Fort Walla Walla, Washington Ter. S. O. 31, Department of Colorado, February 26, 1886.

WM. S. TREMAINE, major and surgeon Leave of absence extended six months on surgeon's certificate of disability. S. O. 50, A. G. O., March 2, 1886.

HENRY MCELDERNY, major and surgeon. Leave of absence extended one month. S. O. 49, A. G. O., March 1, 1886.

WM. G. SPENCER, captain and assistant surgeon. Ordered for duty at Fort Yates, Dakota Ter. S. O. 17, Department of Dakota, February 23, 1886.

To be assistant surgeons with the rank of captain after five year's service, in accordance with the act of June 23, 1874.

ARTHUR, WILLIAM, H., assistant surgeon, February 18, 1886.
BUSHNELL, GEORGE E., assistant surgeon, February 18, 1886.
BIRMINGHAM, HENRY P., assistant surgeon, February 18, 1886.
WYETH, MARLBOROUGH C., assistant surgeon, February 18, 1886.

Circular A. G. O., March 1, 1886.

SOCIETY NOTICES.

SUFFOLK DISTRICT MEDICAL SOCIETY. OBSTETRIC AND GYNÆCOLOGICAL SECTION. — There will be a meeting of this Section at the large Medical Library Room, 19 Boylston Place, on Wednesday evening, March 17th, at 7.45 o'clock. Communications: Dr. W. S. Brown, of Stoneham, "Gynæcological Hints and Hobbies." Dr. S. W. Driver, of Cambridge, "Obstetric Gleanings; or Expedients and Mistakes." Dr. R A. Kingman will exhibit an Axis Traction Appliance for Simpson's or Braun's forceps. Refreshments after the meeting.

JAMES R. CHADWICK, M.D., *Chairman.*
ROBERT B. DIXON, M.D., *Secretary.*

ERRATUM.

In an article by Dr. F. N. Otis, Feb. 18, 1886, on "Limitation of the Contagious Stage of Syphilis," etc., p. 148, 1st column, Mr. Hutchinson should be quoted as saying that "no *minified* transmission of syphilis is possible."

BOOKS AND PAMPHLETS RECEIVED.

Coast Defences against Asiatic Cholera. Report of an Inspection of the Atlantic and Gulf Quarantines between the St. Lawrence and Rio Grande. John H. Rouch, M.D. Springfield, Ill. 1886.

A Case of Prolonged Gestation with Autopsy of the Fœtus. By M. Miñez Rossié, M.D. Havana, Cuba. (Reprinted from American Journal of Obstetrics, January, 1886.) New York: Wm. Wood & Co. 1886.

Report of a Case of Pelvic Abscess with Autopsy. Remarks upon the Treatment by Henry T. Byford, M.D. Containing the Discussion of the Chicago Gynæcological Society, Dec. 18, 1885.

The Adirondacks as a Health Resort. Edited and Compiled by Joseph W. Stickler, M.S., M.D. New York and London: G. P. Putnam's Sons. 1886.

Twenty-Seventh Annual Report of the Inspector of Milk and Vinegar from April 6, 1885 to Dec. 31, 1885. Boston, 1886.

A System of Practical Medicine. By American Authors. Edited by William Pepper, M.D., LL.D., Provost and Professor of the Theory and Practice of Medicine and of Clinical Medicine in the University of Pennsylvania. Assisted by Louis Starr, M.D. Volume IV. Diseases of the Genito-Urinary and Cutaneous Systems, Medical Opthalmology, and Otology. Philadelphia: Lea Brothers & Co. 1886.

On the Suprapubic Operation of Opening the Bladder for the Stone and for Tumors. By Sir Henry Thompson, F.R.C.S., etc. London: J. & A. Churchill. 1886.

The Temperance Teachings of Science. Adapted to the Use of Teachers and Pupils in the Public Schools. By A. B. Palmer, M.D., LL.D., etc. With an introduction by Mary A. Livermore. Boston: D. C. Heath & Co. 1886.

Special Report of an Investigation of the Management of the Cook County Hospital for the Insane. By the State Commissioner of Public Charities. Presented to the Governor, Jan. 28, 1886.

Original Articles.

THE ÆTIOLOGY OF LATERAL CURVATURE.[1]

BY E. H. BRADFORD, M.D.
Visiting Surgeon, Boston City Hospital.

THE theories advanced to explain the phenomena of lateral curvature are the following:—

1. That the distortion is due to unequal muscular action as is true in torticollis. 2. That the cause is to be found in an inequality of growth of different portions of the vertebræ as if the affections were to be classed as a localized unilateral hypertrophy. 3. That the distortion is the result of superincumbent weight acting upon a faulty condition of the spinal column.

Of the two first it may be said that they do not explain satisfactorily the conditions presented by many cases where no evidence of muscular contraction can be found, or any other reason to justify a belief in the existence of a freak of growth. Furthermore, if a series of cases be collected and arranged according to their severity, it will be found that in the lighter cases (differing apparently but in degree from the severer ones), no abnormity of growth in the spinal column is present.

To demonstrate, if possible, the truth of the third of these theories the following series of observations were made, for which I am indebted to the assistance of Professor Dwight and Drs. Mixter, Conant, Newell, and Burrell. Observation I. The spinal column of a full term infant was removed, leaving the skin, superimposed muscles and ligaments intact, but removing the ribs. It was found that although the column was more flexible than in children, adolescents, or adults, rotation was not readily brought about by simply pressing the two ends toward each other, holding each end in the hand; the amount of lateral deviation, that is, curving sideways, without rotation of the bodies, was not great, though much greater than in well-grown spinal columns. The most noticeable effect of pressing the upper part downwards was to cause a bending with the concavity forwards; bending with the concavity backwards was possible only to a comparatively slight degree. Rotation was easily produced by twisting the spine.

Observation II. The body of a young female adult was hung by the head with the head fixed and the body free from the floor, the skin of the back having been dissected off; long pins were driven in the occiput and in the spinous processes of the different vertebræ; a thread with a weight was hung from the pin in the occiput, long enough to touch the floor, and a second thread with a piece of chalk attached was hung successively from the pins inserted in the different spines and from the sacrum. The pelvis was then twisted forcibly and the arc marked off on the floor by the piece of chalk, as suspended from the different pins, was measured from that point in the circle indicated by the plumb line, hung from the pin inserted in the immovable head.

The figures are as follows, measured from the line from the occiput.

Are described by a line from				sacrum	150°
"	"	"	"	axis	60°
"	"	"	"	first dorsal	83°
"	"	"	"	third dorsal	100°
"	"	"	"	sixth dorsal	118°
"	"	"	"	twelfth dorsal	139°
"	"	"	"	third lumbar	136°

[1] Read before the Boston Society for Medical Improvement, March 8th, 1886.

While these figures are only approximative, as the amount of force used in the successive twistings was not measured and presumably not the same, yet they indicate that the amount of rotation possible is greatest in the dorsal region, leaving out of count the twisting possible in the atlanto-axoid articulation. The three or four upper dorsal moved together; the greatest rotation appeared to be in the third lower dorsal; lateral deviation (that is, without rotation) was possible only in the lower dorsal vertebræ. Pressure made on the floating ribs appeared to have little effect in twisting the vertebræ, but pressure on the thoracic ribs appeared in a measure to affect the line of the spinal column. Some play in the costo-vertebral articulation existed, but beyond that point pressure exerted on the ribs was transmitted to the column.

Volkmann[2] found that in life the greatest possible twist of the whole body, including that occurring in the hip joints, was 144°, so that the figures here given are overstatements of the possible physiological limits of rotation. This is also somewhat greater than that indicated by the facets of the disarticulated vertebræ, which would show that if the joints were firm there would be absolutely no rotation in the lumbar region, little in the cervical, except in the atlanto-axoid articulation, and not much in the dorsal region. A certain amount of laxity in the articulation allows more play than would be supposed by the structure of the bones. This was evident on forcibly twisting the cadaver.

The amount of forward and backward motion possible in an adult is much less than would be supposed. This is apparent on inspection, and has been accurately measured by Meyer.[3]

Observation III. The whole spinal column of an adult male, a dissecting-room subject, was taken, including a portion of the pelvis, and the base of the cranium. The larger muscles were removed, but the ligaments and smaller muscles were kept. The pelvic sacrum was firmly held in a vice and a box was secured on the cranium by passing a rod, firmly secured to the box down into the medullary canal of the cervical vertebræ; the box was then secured so that it would move up and down, but not laterally; weights were placed in the box.

It was found that the spinal column could bear a considerable weight without yielding to any noticeable extent. As the amount was increased a curvature with concavity forward was seen, which increased as the weight was increased up to eighty-four pounds. No rotation of the vertebræ was observed as long as the weight bore down directly, but rotation on the lower dorsal and lumbar region was seen when any lateral deviation was made in the cervical region; the amount of rotation or deviation was, however, very small as compared with that possible in children.

None of these experiments approximately reproduced the conditions to be found in life, as the attachments of the ribs had been severed and the viscera removed. Furthermore, the spinal column in the adult is much less flexible than that of a child or adolescent, when lateral curvature is usually observed.

Observation IV. The body of an infant of a year was prepared in the following way. The thighs were amputated near the hip joints and the pelvis fixed upon the remaining stumps and secured by means of nails on

[2] Virchow's Archiv. 1872.
[3] Die Statik und Mechanik des Menschlichen Knochengerüctes, page 210. Virchow's Archiv. Bd. xxxv, page 225. Ibid. Bd. xxxvi, 1866, page 144. Ibid. xxxviii, page 15.

a board, long pins were passed laterally through the pelvis and secured to the board by means of hooks, and the whole pelvis then imbedded in plaster-of-Paris.

The board to which the body was secured was then placed on a stand with four upright rods attached at the four corners, to which rods a flat board was attached so that it would slide smoothly up and down. The child's trunk therefore was placed between two boards, one being fixed and the other pressing down upon the child's head. To keep the head in place it was inserted in a tightly-fitting tin cylinder which was fastened to the under surface of the board. Weight placed upon the upper board, (sliding as it did freely upon the uprights) brought a downward pressure upon the child's head and shoulders. To make the latter more even a wooden collar was placed around the neck resting on the shoulders. Long pins were then inserted in the spinous processes of the vertebræ so that rotation could be more readily noticed. To check the falling forward of the neck a cord was placed around the neck and fastened at the side to the uprights, acting as a check, just as in life the longer muscles of the back would act in keeping the body erect.

Downward pressure upon the upper board caused the child's back to bend backward (convexity backward). When carried beyond a certain point the column would bend sideways with marked rotation, with the changes usually noticed in the ribs, flattening on the side of the concavity and projection on the side of the convexity. This projection was most marked in the middle and upper dorsal region, but the amount of greatest rotation appeared to be in the lower dorsal region. If the angle of downward pressure was changed, or if the pelvis was tipped so as to cause a curve in the spinal column the effect of downward pressure was more marked.

Rotation of the vertebræ was, of course, readily produced by lateral pressure twisting the spine; and on removing all downward pressure, by placing the cadaver in a horizontal position rotation and curvature in the dorsal region was easily made by twisting the pelvis and holding the head fixed, or *vice versâ*, the axis of the head and pelvis being kept the same.

Although a well marked scoliosis was thus artificially produced, attended by the characteristic flattening of the ribs on the side of the concavity and projection on that of the convexity, yet a more careful examination appeared to show that although this was the result of downward pressure, it was downward pressure not exerted in a perfectly vertical direction; for although the force was applied properly, yet it was not possible to prevent some play in the cervical region, from which it resulted that the force fell obliquely upon the under portion of the spinal column, causing curvature and necessarily rotation.

If it were practicable to apply a force directly downward and transmit it through the cervical and upper dorsal region without deviation, the effect upon the lower dorsal region would be to cause an antero-posterior curvature.

The lateral curvature therefore results from downward pressure, but downward pressure applied obliquely upon some portion of the spinal column. Rotation follows from the anatomical structure of the interlocked vertebræ, it being possible for them to rotate slightly, while the amount of tipping sideways (without twisting) which the articular facets permit is much less.

Rotation takes place with the vertebral bodies directed toward the convexity and the spine to the concavity for the reason that the former being larger, are unable to be crowded into the smaller space of the concavity, and are pushed in the direction where there is more space. Perhaps also, as has been pointed out by Judson, the fact that the bodies are free while the spines are held by muscles may give the former more freedom in movement.

From the above facts the following generalizations may be made:—

The effect of the weight of the thorax on head and shoulders would be, if applied in a vertical direction, to bend the spinal column forward and backwards, but in flexible spines the superincumbent weight rarely falls directly, and curvature follows. This is at first a physiological process, but it subsequently becomes, by the alteration in the shapes of the bones under altered pressure, a pathological change.

The extent of the curve, and the situation of the curve will be determined by the attitude habitually taken by the individual, and perhaps also by a difference in the resisting power in different parts of the column.

The injurious effect of superincumbent weight in curving the spine, is increased by the obliquity of the pelvis, or the inclination of the shoulders so frequently taken by persons of weak muscular systems in sitting sideways and leaning. The curve is usually in the dorsal region, with the right shoulder raised, as the majority of people are right-handed.

The distortion is one of growing years, and is more common to girls than boys, for two reasons, namely, that at the age when lateral curvature is usually seen first, girls grow more rapidly than boys, and their muscular system is less well developed, from the customary of life habits of girls in society. The effect of superincumbent weight upon a yielding spine in adult life, after the vertebræ have ceased to grow, is to cause an increase in the antero-posterior curve of the back.

The matter may be summed as follows:

The deformity known as lateral curvature is the result of several factors, the chief being,

1. Superincumbent weight.
2. Faulty attitudes due usually to muscular weakness.
3. A condition of the bone structure of the spine incapable of resisting the effect of weight, analogous to that known as rickets of adolescence.

SIX CASES OCCURRING IN PRACTICE.

I. SPASMODIC ABDOMINAL CONTRACTIONS. II. PARALYSIS OF ARMS IN CONGENITAL SYPHILIS. III. TWO CASES OF EMPYEMA, (1) AT EIGHTEEN MONTHS, (2) AT FOUR YEARS. IV. DOUBLE PLEURITIC EFFUSION AT THIRTEEN YEARS. V. SIMULATED VESICAL AND RENAL CALCULUS AT TEN YEARS.[1]

BY T. M. ROTCH, M.D.

SPASMODIC CONTRACTION OF ABDOMINAL MUSCLES.

J. M., a man twenty-eight years of age, presented himself for treatment at the City Hospital, January 12th, 1886. He has always been strong and well, but since beginning to work as a barber last spring, has

[1] Read before the Boston Society for Medical Observation, February 1, 1886.

been very nervous. In April, 1885, he began to have attacks of spasm of the abdominal muscles. The contractions are irregular in force and interval of rest, but have been continuous and have incapacitated him from work; at first he had some control over the attacks, now he has none. The spasms occur nearly every day, and he feels that they are coming on a short time before they begin. The intervals are usually about half a minute. When he has succeeded in controlling one or two spasms the next one is increased greatly in severity.

He is slightly constipated, and since the attacks began has lost in strength somewhat and had a poor appetite. On physical examination nothing abnormal was discovered. He behaves, when observed during an attack, as though some one had struck him in the epigastrium.

He was treated with Fowler's solution, and on January 21st, reported himself as improving.

APPARENT PARALYSIS OF BOTH ARMS IN A BABY WITH CONGENITAL SYPHILIS.

C. S., a boy six weeks old, was brought to the Children's Hospital, April 7th, 1885, by his mother, a Swede. The mother has always been well and strong, according to her own account, and has never had any miscarriages, effloresence on skin, sore throat or anything which would point towards her having been infected by syphilis, and, on examining her, nothing abnormal could be found: she is strong and healthy-looking and manifests a desire, for the sake of her baby, to answer all questions freely. She has had no other children, and states that the father of the child had a sore in April, 1884. The child is breast fed and was healthy at birth. When one week old the mother says that the child had a bulbous eruption coming out on the soles of the feet, legs, palms of hands, arms, body and face, and began to have snuffles. April 4th, the left arm was noticed to be paralyzed. On examination the face was found to be covered with reddened patches, ulcerations and crusts. The arm hung helpless by the side, and the child seemed to be sensitive to the touch and to have pain.

The oleate of mercury 20 per cent. was ordered spread on a flannel abdominal band. When seen on the 14th, the right arm was also helpless, and the mother stated that the inunction had not been used much, as it caused excoriation. The ointment was then reduced in strength one half and hydrargyrum cum creta, one grain, given three times daily. In three days the paralysis of the arms disappeared, though the other symptoms continued. April 21st, the eruption had disappeared almost entirely from the face, but as the snuffles continued the mercury was increased to four grains daily; this had to be reduced to three grains later as it caused a slight diarrhœa. May 12th, the snuffles disappeared; the child was then not seen again until November 15th, when it presented gummata of the anus, a few papules on the body and a slight squamous effloresence on the soles and palms.

The previously mentioned mercurial treatment was then renewed, and by December 10th, all the lesions had disappeared excepting the squamous eruption on the hands and feet. The child at present looks well and strong, and is cutting its incisor teeth.

This case is of interest, first on account of the apparent freedom of the mother from syphilis, while the child was undoubtedly syphilitic: second, as showing that hereditary syphilis in not necessarily an atrophic disease, where the child can have good breast milk; (this child always looked particularly well nourished:) and finally the apparent cause of the paralysis. The possibility of the paralysis being poliomyelitis anterior acuta was considered but hardly seemed to cover the case, both arms being affected and entire relief taking place in three days after the use of mercury was properly carried out (of course it might have been essential paralysis but it is not probable.) A central syphilitic lesion was then thought of, but the rapid recovery of the paralysis before the efflorescence, or snuffles had begun to be affected seemed to show that a central lesion did not exist: the evident pain manifested by the child when the arms were touched and the speedy disappearance of this sensitiveness together with the paralysis under mercurial treatment, pointed towards a local trouble in the arms themselves, which causing pain on motion, the child did not choose to lift or use its arms. No traumatic history could be obtained; rheumatism occurring at six weeks of age and affecting the child in this peculiar way would be very unlikely, and I therefore supposed the case to be local inertia of the arms, from pain in the bones, resulting from that disease of the bones which occurs in hereditary syphilis and described by Wegner in Virchow's Archives, 1870, vol. 50. This disease was formerly called Parrot's disease, and supposed to be incurable until it was discovered to be one of the manifestions of syphilis. Roques describes a similar case, where the mother was apparently healthy but the child at birth had a pemphigoid eruption which disappeared under antisyphilitic treatment in a few weeks. At two months however paralysis of the arms occurred with pain and crepitation at the upper end of the humerus; antisyphilitic treatment was renewed and the symptoms passed off. Millard also reports a case where one arm was affected.

I thought that it might be of interest to the society to compare these plates showing the disturbance in the bones in Hereditary Syphilis, in Hereditary Cretinism, and in Rachitis.

In the fœtal skeleton the long bones are cartilaginous and the process of ossification is intracartilaginous. As the cartilage changes to bone the cartilage cells increase in number and are closely packed together: then comes the area of osteoblasts, then the calcareous matter, and deeper down in the ossified portion are the blood-vessels running in from the periosteum.

The epiphysis of the bones of the arm are still cartilaginous at birth and they remain separated from the bone shaft for some time by a narrow cartilaginous layer. It is in this cartilaginous separating layer that certain changes are seen in congenital hereditary syphilis, as will presently be shown in the wood-cut, and Wegner's colored plates of fresh specimens show also the characteristic change of appearance of this layer from its normal color to a yellowish-white: the pain and sensitiveness in these cases of local syphilitic paralysis are probably caused by a consecutive low grade of periostitis; this same cartilaginous layer is also a marked feature in the changes which take place in the bones of congenital cretins and in rachitis. I will also call the attention of the society to these preparations of sections of bones, made by Dr. Wm. F. Whitney, which beautifully illustrate the difference of proportion between the cartilage and bone in the normal child at birth and the cretin, the cretin bone being

shorter and the cartilaginous epiphysis greatly out of proportion to the shaft; the cretin bone also showing the above spoken of cartilaginous layer or zone very narrow in comparison with the same layer in the rachitic bone.

Dr. Ernest Zeigler in his Lehrbuch der Allgemeiner und Specieller Pathologische Anatomie und Pathogenese: II. Theil, 2 Hälfte, represents these different conditions of the bones in four wood-cuts. No. I, illustrates diagrammatically the normal endochondrial ossification. No. II, the endochondrial ossification in a new born cretin. No. III, the endochondrial ossification in hereditary syphilis of the new born, with its misplaced foci of calcification, misplaced medullary spaces and islands of calcification. No. IV, the rachitic endochondrial bone formation. The literature of this osteochondritis syphilitica is: Wegner, Virch. Arch. 50. Bd. Waldeyer u. Köbner, ib. 55. Bd. Hoab, ib. 65. Bd. Veraguth, ib. 84. Bd. Stilling, ib. 88. Bd. Parrot, Archiv. de phys. IV. 1872; Cornil et Ranvier Man. d'histol. pathol. II. 1881. Kassowitz, Die Normale Ossificat. u. s. w. Wien 1881. Müller, Virch. Archiv. 92. Bd.

(Dr. Rotch then showed in addition to the colored plates of Wegner and the wood-cuts of Zeigler, colored plates of normal and rachitic bones by Kassowitz, and a photograph of the new born cretin from which Dr. Whitney had prepared the section of bone.)

III. EMPYEMA.

In reporting these cases of empyema, my idea is not to draw any especial conclusions from them or to give the records in detail, but to pick out some of the points which may be of use to others in the daily treatment of this class of cases, where the sudden changes from comparative quiescence of symptoms, with almost normal temperature, to heightened temperature and a serious aspect of affairs, is not of uncommon occurrence.

I have personally had only eight operative cases of empyema under my care, and with the exception of the two cases which I am about to report, and one other, simple incision, drainage and daily washing out with carbolic acid and water were employed, and where no complicating disease existed, they did well and ultimately recovered; but I should say that the course of the disease was decidedly prolonged in comparison with the time taken when antiseptic methods were employed. Various tubes and appliances for securing the tubes were tried from time to time, resulting in finding that a safety-pin passed through a rubber tube, the easiest to manage, and the most simple. I also found that two tubes were preferable to, and more likely to work well than one, and that the size of the tube was determined by the individual width of the intercostal space, the largest which could be introduced into the cavity without being pinched by the ribs, and thus interfering with the flow of pus, being the best. The cases now under consideration were treated in exactly the same manner, and, it is believed, with equal care as to antiseptic details, such as cleanliness, and thorough disinfection of hands, instruments, and dressings; both cases were in private families, and both were subjected to the same climatic changes in Boston during the spring of 1885; both recovered completely, without deformity, and with apparently sound lungs, so that they show how, under the same conditions, the disease can vary in its course: Case I being short, fifty days; tube in twenty-four days; Case II being long, three months; tube in sixty-seven days.

CASE I. A boy, eighteen months old, well-developed; always well until April 26th, 1885, when he was suddenly attacked with fever, pain, and restlessness. Temperature 102°, pulse 160, respiration 60; no vomiting or nervous symptoms. April 27th, temperature 103°, respiration 80; grunting in character; decubitus right side, child screaming with pain when turned on left side; slight cough; auscultation and percussion of heart and front of chest normal; resonance slightly diminished in right back; no râles or bronchial respiration; left back normal.

During the next few days, numerous fine, moist râles were heard over the right back, and dulness gradually developed over the back, the axillary region, and apex in front.

May 8th. The dulness changed to flatness; the râles disappeared, and the respiration was scarcely perceptible in the area of flatness behind. Aspiration was performed in the seventh interspace, at the angle of the scapula, and three ounces of clear, inodorous pus removed, when the resonance became fair in lower back, with tubular breathing and a few fine râles; the temperature then went down from 101 to 99.5°, the respiration from 80 to 60, and the child was much brighter.

May 11th. The flatness returned, and four ounces of rather thicker pus was removed with the aspirator, and one ounce on the 14th.

May 18th. The temperature was 102.4°, and as the fluid continued to return, ether was given, and (Dr. Ruddick and Dr. H. L. Burrell being present) an incision was made in the eighth interspace in the anterior axillary line, one and a half inches long; two or three ounces of odorless pus escaped, two tubes were introduced one inch into the chest, secured by a safety-pin, and an antiseptic dressing applied.

May 19th. Comfortable until the afternoon, when he began to be restless and to have a heightened temperature; and on the 20th, was reported to have cried all night, and was found to have a temperature of 102°. The dressing was changed, and clots of somewhat tenacious pus, about a handful, were washed out with a solution of corrosive sublimate, 1 to 10,000; a pint of the solution was used, and a block-tin sound to break up the clots; the tubes were left one-half inch in the chest. The temperature then fell to 98.5°, and the child began to gain and to have a good appetite.

On the 29th, one of the tubes was removed; the dressing was only changed when there was evidence of soakage, when it was done at once. On the 31st, as there were only a few drops of pus on the dressing, and these of rather a serous character, the remaining tube was removed, and the child walked out and rapidly regained its strength; on the 5th of June, however, the temperature went up to 102° and the tube was replaced, considerable pus flowing out. On June 11th, the tube was permanently removed, and later in the summer, the child was reported to be perfectly well, the lung apparently being normal on auscultation and percussion.

There is nothing but a normal course to record in this case, with the exception of the first forty-eight hours after the operation, when, instead of the temperature going down and the patient being comfortable, the old symptoms continued until relieved by washing out the cavity. This episode, however, is of considerable

interest in respect to the treatment of the case at the time of the operation, that is, whether the cavity should be washed out at once, to ascertain whether the pus is too thick to flow through the tube, or whether we shall take our chances of this occurring, as it is the exception, rather than the rule. In my former cases, where I always washed out at the time of the operation, I obtained entire relief to the symptoms at once, so that I was at first rather inclined to irrigate with a disinfectant in the antiseptic cases before adjusting a dressing; but the experience with reference to this formation of pus-clots, which came to me in Case II, seemed to show that the clotting can take place at any time, either before or after the operation; and that, therefore, it may be wise to wait for some sign that nature needs assistance in accomplishing an uninterrupted flow through the tubes, before introducing foreign matter into the thoracic cavity. The age of this patient, eighteen months, is also a point of interest in the case.

Case II. A girl, four and a half years of age, with a history of measles two years previously, and a chronic otorrhœa following, and lasting up to the time of the present attack; otherwise strong and well until April 15th, 1885, when, in the morning she was very well, and had a normal temperature, but later in the day, began to complain of pain in the sternal region, and when seen at 2 P. M., had a temperature of 103° (axilla), respiration 60, pulse 165, and nothing abnormal found on physical examination.

7 P. M. Temperature 104°. Dr. Minot in consultation; nothing abnormal discovered.

April 16th. Temperature 104°, pulse 165, respiration 66 (grunting in character); slight dulness in right axillary region and respiration rather tubular; urine passed involuntarily; mind clear; pain on being moved, and when placed on right side, cries out continuously until turned on to back.

April 17th. Respiration 84, pulse 165 (intermittent); slight cough; coarse, sonorous râles over both fronts; a little dulness in right back; auscultation and percussion, otherwise normal, excepting slight area of dulness over upper part of sternum. The child always refers her pain to the upper part of the sternum, on the right side. On the 18th, a few râles and dulness were found over the right front and sternum, and the heart's apex was a little to the left of the mammary line; also, a friction-sound was heard at the right edge of the upper part of the sternum, some dulness in the axillary line, and a few moist râles in the right back, with lessened percussion resonance, but no dulness.

By the 20th, the friction-sound had disappeared, bronchial respiration was heard at the right apex, in front and behind, and the dulness extended to the right back. Temperature 100 1-5°, respiration 84, pulse 165, regular.

Up to the 23d, the dulness was decidedly most marked in front, but by the 27th, there was flatness over the whole of the right lung, front and back, with bronchial respiration. Temperature 100°; no cough. On the 30th, aspiration was performed in the seventh interspace, just outside of the angle of the scapula, and one ounce of thick pus withdrawn.

May 2d. Pulse 165, respiration 60, temperature 101°. Ether was given (Dr. Minot and Mr. J. Perkins, interne at the Children's Hospital, being present), and with carbolic acid spray, and the antiseptic precautions employed in Case I, an incision was made in the eighth interspace, in the posterior axillary line; one pint of inodorless pus escaped, two tubes were introduced, and the antiseptic dressing applied. 6 P. M., temperature 98.5°.

May 3d. Reported to have had a restless night. 8 A. M., temperature 101°, pulse 165, respiration 60; tube found to be pressed upon by the dressing; heart's apex in position; gurgling râles and cavernous respiration all over right lung, and in an hour or two, temperature 98 4-5°, pulse 135, respiration 45. The temperature then remained normal, and the patient steadily improved until the 12th, when she began to have an evening temperature of 102°, and respirations of 60; and as this continued for several days, the dressing was removed on the 15th.

Very little discharge was found on the dressing and no odor; a probe passed through the tubes entered the pleural cavity freely; Labarraque's solution 1-16 of water was then injected and ran in and out freely, very little pus coming out with a small amount of coagulated fibrin, and a few little blood clots; the dressing was then re-applied and the temperature found to be 99°; six hours later it went up to 103°; the dressing was then again removed, the tubes taken out and a block-tin sound introduced and gently moved about in the cavity; the Labarraque's solution was then again injected and some thick clotted pus came away; new tubes were introduced. May 16th, the child was screaming with pain and was reported to have had an almost sleepless night. Temperature 101°. Pulse 150. Respiration 50; the dressings and tubes were again removed and a female catheter attached to a fountain syringe was introduced between the ribs and Labarraque's solution injected; large dense tenacious clots (a basin full) then with great difficulty came through the wound; the clots did not merely look like those described in Case I, but it seemed as if some chemical reaction had taken place between the Labarraque's solution and the pus, rendering it a dense mass, which by no possibility could flow through a tube; the dressing was then re-applied, but although the temperature went down the child was restless and looked very badly, so that on the next day it was deemed best to remove the dressing and I then thoroughly washed out the pleural cavity with a solution of corrosive sublimate 1 part to 10,000 of water; a few more of the tenacious clots came away, the tubes were shortened one-half inch, and the child had the first good night which it had had for some time; the sternal pain disappeared; the temperature became normal and the child rapidly gained, there being occasional complaints of sternal pain and slight rises of temperature, easily controlled by changing the dressing and injecting the corrosive sublimate. May 27th, one tube was permanently removed, and the child walked for the first time. At times the tube had to be introduced further and again shortened. June 2d as there was only a little serous discharge and the child was doing well the remaining tube was removed, and two days later the auscultation and percussion was almost normal, excepting that the respiration was rather harsh at the base behind, and that there was a small area of dulness in the axillary line around the wound; three days later, June 7th, the child was looking badly and had a temperature of 103°, quick shallow respiration and pulse 160. Ether was given and the tube introduced, when two or three ounces of clear inodorless pus came away; the child then began to improve and to have a normal temperature, and was taken to Beverly on the 10th;

from this time, with an occasional bad day from the tube getting clogged, she grew stronger and played out of doors with, however, decided left lateral curvature and raising of the left shoulder. The tube was not removed but gradually shortened by altering the position of the safety pin, and on July 8th the tube was permanently removed by simply letting the wound close up around its pleural end and gradually push it out. The auscultation and percussion of the lung soon became normal excepting a slightly dull area around the wound; the lateral curvature soon passed off, having existed for two months. In December the child, who is passing the winter at the Lake of Geneva, was reported to be perfectly well, excepting that the chronic otorrhœa returns from time to time.

The points of especial interest in this case were the obstinate and unaltered dorsal decubitus lasting for weeks, the sternal pain and the unusual behavior of the pus when Labarraque's solution was used. It is also to be noted in this case that instead of being able to withdraw the tube at once when the discharge became serous, as is usually a safe procedure, I had to gradually shorten the tube from the outside allowing the cavity to close around it and finally push it out, for complete withdrawal of the tube always made the temperature go up. As to the fluid used in washing out the pleural cavity, corrosive sublimate is disinfectant at 1 to 10,000, is without odor, and so far as I know has not caused any symptom of poisoning when diluted to this extent; it was freely used in both cases.

IV. TWO ATTACKS OF PLEURITIC EFFUSION, CLOSELY FOLLOWING EACH OTHER, ON OPPOSITE SIDES OF THE CHEST.

CASE IV. A boy, thirteen years old, always well and strong, came to the City Hospital for treatment November 9th, 1885. Three weeks previously he fell into some water and was soaked from head to foot: in a few days he began to have pain in his left side and to cough. On physical examination the apex of the heart was found in the line of the epigastrium and there was flatness on the left side of the chest in front and behind nearly to the apex of the lung, with diminished respiration. November 23d he was aspirated and fourteen ounces of clear yellow serum withdrawn. November 28th the apex of the heart was found to be in position; there was lessened resonance on percussion and diminished respiration, but no râles; he had gained in weight and strength, had no cough and looked and felt well. He was then discharged and was perfectly well until December 23d when, without known exposure he had a chill and began to have pain in his right side, with dyspnœa and cough. He entered the hospital again January 7th, 1886, and was found to have flatness in the right side of the chest below a line corresponding to the angle of the scapula and the mammary line, the flatness extending a little higher in the axillary line.

In the area of flatness the respiration was much diminished; the vocal resonance and fremitus were decreased; the heart's apex was displaced to the left of the mammary line two c. m. At times a few moist râles were heard in the back, but these disappeared and the fluid after increasing for a few days, diminished; the boy gained in weight and strength and on the 28th is reported was feeling perfectly well. February 1, 1886, auscultation and percussion of the left lung were about normal; the apex of the heart was in position. Percussion of right lung fairly good; no râles; respiration diminished and about the same as was found in the left lung at time of second entrance to hospital. Vocal resonance and fremitus equal on both sides.

[Dr. Rotch exhibited the patient with the line of pleuritic effusion on the left side, and the heart displaced to the right; signs of the first attack, marked in red, and the pleuritic line on the right side and the heart displaced to the left; signs of the second attack, marked in blue.]

SYMPTOMS OF RENAL AND VESICAL CALCULUS IN A BOY TEN YEARS OLD.

A boy ten years of age had been moderately strong and well for some years; he has from time to time had incontinence since he was three years old, and at one time was for a short period unable to control his fæcal discharges; he had measles in the summer of 1885, and then although he did not have any especial symptoms, looked pale, lost in weight, and got tired easily, but he went to school and no complaint was made until November 2d, 1885, when he began to pass his water frequently, the desire coming suddenly; the water passed freely but caused pain referred to the end of the penis, and there was also irritation and pain about the prepuce. (No incontinence.) The prepuce was then retracted twice daily and carefully washed, and in four days the pain had disappeared from the prepuce and penis and was referred to the lower part of the abdomen; this pain was less when he rode on horseback, but increased when he sat down quietly. On the 8th he complained of considerable pain over the pubes. Pulse 81, temperature 98°, urine, sp. gr. 1,020; reaction acid; no albumen; heavy sediment of urates; under the microscope the whole field was found to be covered with uric-acid crystals.

November 9th. The urine was examined by Dr. Hills, with the following result: Color normal; specific gravity, 1021; reaction, acid; amount of sediment, considerable; urophiæn, slightly diminished; indican, normal; urea, normal; chlorides, normal; ether phosphates, normal; alkaline phosphates, normal; albumen absent; bile pigments absent. Sediment, normal amount of epithelium, some excess of mucus, an occasional crystal of oxalate of lime.

November 10th. Dr. Hills also found numerous uric-acid crystals.

December 1st. No sediment; neutral.

December 12th. Uric-acid crystals, and a few pus corpuscles; reaction, acid.

November 9th. The boy was then ordered to drink six or seven tumblers of Belmont Spring Water daily, with two or three grains of bicarbonate of soda in each tumbler, and on November 12th, he was restricted to a liquid diet. He, at times, had spasmodic pains in the bladder before and after passing his water, and attacks of vomiting and diarrhœa. The amount of the twenty-four hours' urine was about twenty ounces.

November 21st. The urine contained no uric acid, and he was without pain, still, however, passing his urine frequently. The soda was simply used to the extent of rendering the urine less acid.

December 7th. He complained of spasmodic anal pain and irritation; nothing was found on examination, and these symptoms were relieved in a few days by enemata of sweet oil.

December 9th. He was reported to have attacks of

pain in the region of the bladder, so severe, that his parents said that he rolled on the floor in agony, and he was confined to the bed for several days, with pain and frequent micturition. Uric acid in urine.

December 13th. Ether was given, and he was carefully sounded by Dr. E. H. Bradford; nothing abnormal was detected, excepting a slight feeling of resistance at the neck of the bladder, and a small adhesion on one side of the prepuce, which was torn away. The boy came out of his ether well, and for the next few days, seemed better and took solid food (for about twenty-four hours after being sounded, he had great pain on passing his water). The paroxysms of pain gradually grew less, and disappeared on the 19th.

On the 24th, he went out to drive, and he seemed to be improving, although considerable pus was found in the urine, but from the time of the sounding, no uric acid was found in the urine.

On the 26th, he had nausea, pain in right side of abdomen, passed his water frequently, though without much pain, was fretful, and in bed all day, and in the middle of the day, his temperature went up to 104°.

December 27th. Temperature 103.5°; too sick to get out of bed, drowsy, so weak that he can hardly stand; in the night, very restless, and passed a great deal of urine.

December 28th. Feels better, but pain and tenderness continue in right side, and there is some tenderness on pressure over the pubes.

December 29th. Dr. Hills reports as follows: Urine, color pale. Reaction, acid; urophæin diminished; indican diminished. Urea diminished; uric acid diminished; specific gravity, 1013; amount of sediment, considerable; chlorides normal; ether phosphates diminished; alkaline phosphates diminished; albumen, a trace; sugar absent; bile pigments absent. Sediment, considerable pus; an occasional blood-globule, a considerable number of small, round epithelium cells, which, so far as their size and shape afford any indication, may come from the tubules of the kidney, or from the prostatic portion of the urethra. As there are no casts, the epithelium without doubt comes from the prostatic portion of the urethra, and localizes the inflammation at this point. There is no excess of large bladder epithelium, so that the fundus of the bladder is apparently not involved. There are, however, a few cells resembling those found about the neck of the bladder, so that there may be a slight catarrh of the mucous membrane of this region. There is no evidence of any trouble in the kidney, or pelvis of the kidney, and no evidence of stone. The trouble is probably catarrh of the prostatic portion of the urethra, extending possibly into the neck of the bladder.

December 30th. Temperature 104° in the afternoon, and some pain in the back of the head, as well as the abdominal pain.

December 31st. Temperature 98°; feels better; appetite has returned; no pain on passing water. Two loose operations from bowels without pain. Pulse 75, regular. Less tenderness of abdomen. Passes a great deal of urine, but much less irritation about bladder. He then began to steadily gain in weight, strength, and color; the pain disappeared from the side, and the tenderness over the pubes grew less. He was up and about the house, but too much exercise or excitement at times caused a return of the pain.

January 19th. Dr. Hills reports as follows: Urine, color pale; specific gravity, 1012; amount of sediment, slight; albumen, slight trace. Chlorides normal; urophæin, indican, urea, uric acid, ether phosphates, and alkaloid phosphates diminished; sugar and bile pigments absent. Sediment, rather more small pus cells than normal; hardly more bladder epithelium than normal. Amount of twenty-four hours' urine says from three to four pints, but he is drinking about that amount of water daily.

January 31st. Has been steadily improving; slight tenderness over pubes, but no pain elsewhere, or in passing water. Urine normal. The boy is apparently well; the treatment has been, mainly, giving him large quantities of pure water to drink, on the ground that the great excess of uric acid in the urine might be causing, or rather exaggerating, his various nervous symptoms, and diluting the urine, apparently giving relief to this condition.

RECENT PROGRESS IN PUBLIC HYGIENE.

BY SAMUEL W. ABBOTT, M.D.

SPREAD OF SMALL-POX BY HOSPITALS.

Further important observations in addition to those already noted, are published in a recent report by Dr. Murphy, late medical officer of health on the sanitary condition of Highgate and Hampstead as affected by the small-pox hospitals located therein. The conclusions arrived at are that in the four years, in which the Hampstead Hospital was closed, the houses immediately surrounding the hospital were attacked less than others in the parish. In 1884, when it was reopened these houses suffered three times as much as the rest of the parish. The same was also true of Highgate Hospital. While confessing that the distribution of the disease did not warrant him in expressing any definite opinion on the question whether the disease was spread through personal communication, or was aërially diffused, he considered that the evidence afforded, tended to show that their small-pox hospitals as at present constructed and managed were a means of disease to the neighborhood in which they were placed.

Hence the propriety of selecting sparsely settled districts, remote from habitations for the site of such hospitals.[1]

REGISTRATION OF NEW CASES OF SMALL-POX.[2]

Dr. S. Wolffberg suggests the following points of information as desirable to be ascertained in each new case of small-pox.

(1) Age; gender. (2) Date; Course and result of disease. (3) Has patient had small-pox before? When? Was it confirmed by a physician? (4) Was patient vaccinated? When? With what success? That is, how many scars to be seen at time of occurrence of small-pox? With what kind of lymph? (5) Was patient revaccinated? When? With what success? Are these traces of revaccination at time of occurrence of small-pox? With what kind of lymph was revaccination performed?

VACCINISATION.

Dr. Titeca[3] concludes that the principle of vacci-

[1] Local Government Chronicle, February 6, 1886, page 112.

[2] Centralblatt für Allgemeine Gesundheitspflege. Erstes heft, 1886. page 24.

[3] Étude sur la pratique de la Vaccine, ce qu'elle est; ce qu'elle devrait être, par le docteur Titeca. Bulletin de l'acad. r. de méd. de Belgique. 3 ser. t. xix. No. 6. 1885.

nation should be raised to the state or condition of an axiom; in other words, that it may be made perfectly protective. Dr. Warlomont has expressed a similar belief in his recent work.[4] They have crystallized this belief under the name of the school of vaccinisation (ecole vaccinisatrice), wherein they are in accord with the views of many others both in America and in Europe.

Dr. Titeca details at length the views of the vaccinists, and also of the anti-vaccinists. It is largely to the short-comings of the former, that the latter school owes its existence.

The following graphic picture of the defects of the vaccine employed, as well as of the operation itself, presents some of the most common reasons for failure.

"It often happens, especially in the country, that the agent intended for affording protection against variola, has nothing more of vaccine than the mere name. Whether sent out by the vaccinal institute, or by a committee of vaccination, or collected by the vaccinator himself, preserved in the shape of pulp, or upon points, plates, or in tubes, its efficiency is gradually weakened or lost in the desk or medicine-chest of the physician, who takes no care to renew his stock at the proper time.

"The operation is quite simple, three insertions on each arm, often one only, and that is all. Usually the child escapes further notice. The parents, or even the neighbors, take upon themselves the duty of informing the physician when occasion presents itself, that the vaccination has proved successful.

"More rarely . . . the child is brought, at a longer or shorter time after the operation, the visit resulting in the delivery of a certificate of vaccination, in the event of any vesicles or vaccinal scars, without regard to their number or appearance. In case of absolute failure the operation is delayed to a more favorable time.

"In point of fact this delay is often indefinite, the child being, in the opinion of its parents, *vaccinated*, as soon as it has received the required punctures. The case is still worse when it is left to the care of midwives or nurses."

The author therefore concludes that vaccination is in many cases *nothing but a deceptive operation performed with a hypothetic virus.*

The following questions are also discussed:

1. *No vesicle follows a given vaccination.* We are not therefore to infer that the subject is wholly insusceptible and abandon the attempt to secure a successful result. The quality of the vaccine employed, the method of operation and the possibility of a temporary insusceptibility of the subject are to be borne in mind. Of vaccinations made in 1882 at Utrecht and Groningen on subjects upon whom a primary vaccination eight days before had failed, there were respectively ninety-two and one hundred per cent. of successful results.

2. *One or more vesicles are developed.* Ought the subject therefore, *ipso facto*, to be regarded as having acquired immunity from small-pox? No. In discussing the question of multiple insertions, the author affirms the impossibility of determining beforehand the required number to protect a given subject. An old regulation of the German army required twenty insertions, ten in each arm.

In Holland, a modified vaccinisation has been practiced for a long time, ten insertions being made upon each subject, and the results classified in accordance with the number of good resulting vesicles, certificates being given to such as have more than five good vesicles. All others are submitted to a supplementary, or an auto-vaccination.

The following table gives the results of some supplementary vaccinations.

		Number of Supplementary Vaccinations.	Number Successful.	Average No. of Supplementary Vesicles.	Per cent. of Successful Results.
La Haye, 1881,	Subjects having 4 vesicles,	81	50	1-6	62
	" " 3 "	137	100	1-8	73
	" " 2 "	111	91	1-8*	82
	" " 1 "	76	72	1-8*	94
La Haye, 1882,	Subjects having 4 vesicles,	96	60	3	62
	" " 3 "	101	75	4	74
	" " 2 "	78	72	5	92
	" " 1 "	44	40	5	91
Utrecht, 1882,	Subjects having 4 vesicles,	45	28	1-4	62
	" " 3 "	53	34	1-8	64
	" " 2 "	90	60	1-9	67
	" " 1 "	52	34	1-9	65
Groningen, 1882,	Subjects having 4 vesicles,	4	2	1	50
	" " 3 "	29	13	1-5	45
	" " 2 "	43	34	1-8	79
	" " 1 "	44	37	1-9	84

* Or more.

Dr. Titeca criticizes this table, and reasonably asks if the subjects bearing four vesicles were submitted to revaccination, and gave fifty and sixty-two per cent. of success, would not those having five vesicles have nearly as successful results. In addition, Dr. Titeca gives the results of twenty-three primary vaccinations of children of various ages from three months to five years: twelve boys and eleven girls.

A second vaccination of these twenty-three children gave the following results:

7 successful, equal to 30.4 per cent.
6 partially, equal to 26 per cent.
10 unsuccessful, equal to 43.4 per cent.

Fifteen of these were vaccinated on the 6th or 7th day after the first insertion, with virus taken from the same subject (auto-inoculation).

In these the results were

6 successful, equal to 40 per cent.
3 partially, equal to 20 per cent.
6 unsuccessful, equal to 40 per cent.

In four cases vaccination was followed by a supplementary vaccination in from one to four months. None were successful; one partially, three unsuccessful.

In four others it was practiced at an interval of two, four, five and six years, something as follows; none successful, two partially, two unsuccessful.

A third vaccination was made upon four subjects, six to seven days after the second vaccination. Result: none successful, two partially, two unsuccessful.

The author regrets that for various reasons three cases which were wholly successful on the second trial could not have been submitted to the third vaccination. He also discusses the value of one or many cicatrices, and also the revaccination of persons who have had variola, citing the well-known figures of Marson, and the conclusive experience of the Prussian army.

With reference to the revaccination of persons who have had variola he states that 851 soldiers who had suffered from variola, were vaccinated at Antwerp in 1881, '82, '83, and '84, with almost 30 per cent. of success. (24.41 per cent in 1883; 33.5 per cent. in 1881).

[4] Traité de la Vaccine. Paris, 1883, page 283.

From a general review of the subject the author concludes that vaccination, to be perfectly protective, should be practised under the following conditions:

1. The employment of a vaccine virus which has lost none of its vitality.

2. The number of inoculations should be in accordance with the individual vaccinal receptivity, even to the extent of the exhaustion of that condition.

The first of these conditions is fulfilled by the use of living (*vivant*) vaccine, collected at the time of the operation; the second by the operation to which Dr. Warlomont gives the name of vaccinisation.

Every vaccination made in default of these conditions is deceptive, and to such faulty methods the anti-vaccination school owes its existence. Its faults and grievances will cease when the school of vaccination is recognized.

The author recommends the following practice:

1. Vaccinisation of infants within six months of birth.

2. Revaccinisation every ten years, when no epidemic is prevailing, and general revaccinisation in time of epidemic.

CREMATION.

The following figures show the extent to which this method of disposal of the dead has increased in eight cities of Italy since its introduction at Milan in 1876.

Years.	1876	1877	1878	1879	1880	1881	1882	1883	1884
No. burned.	2	15	16	27	45	75	69	82	113

Making a total of 444, of which number 332 were cremated in the two crematories at Milan, one built upon the plan of Gorini, and the other upon that of Venini.[5]

The new regulations in force since 1884 in the province of Milan with reference to cremation, provide for the prevention of the concealment of crime, very much in the same manner with the law enacted in Massachusetts in the following year requiring the addition of the signature of the medical examiner of the district where the death occurred, to that of the attending physician. The law in force in Milan requires an autopsy in case of the death of a person whose body is offered for cremation, provided the cause of death was uncertain, suspicious, sudden or violent.

No body can be cremated till twenty-four hours have elapsed from the time of death.[6]

THE VENTILATION, CLEANSING, AND DISINFECTION OF SEWERS.

In 1849, the Metropolitan Commission of Sewers, of London, following a series of experiments conducted by Sir Joseph Bazalgette, adopted a system of ventilating sewers by means of road-shafts with surface gratings. Latterly, complaints were made of noxious gases arising from these openings, which, it was claimed, were a nuisance, and injurious to health. In 1877, a Commission was appointed to consider the question of sewer ventilation in the metropolis. The results of their investigation have recently been published.

The origin of "sewer-gas" is accounted for by the decomposition of substances passing through, or deposited in the sewers, this gas being at a minimum at low temperature, and also when considerable quantities of water were passing through. The discharge of specially offensive trade refuse into them gives rise to additional objection, and the formation of more offensive gases. The difficulty of detecting such discharge in sewers is very great. Provision for frequent flushing in dry weather is suggested as a remedy of prime importance. With such a measure, special ventilation is imperative, otherwise running house-traps would be forced, and the health of inmates imperilled.

Large, heated chimney-shafts have also been suggested, and employed to a limited extent as a further remedy; also smaller shafts attached to houses, and extending to a considerable distance above the roof. Permanganic acid is also suggested for the purpose of disinfecting the sewers.[7]

In the same line of work, may be also named the experiments of Health Officer Wight, of Detroit, as detailed in a recent paper read before the American Public Health Association, at Washington. Several tons of sulphate of iron were used to disinfect the sewers of that city, and large quantities of sulphur were burned in pails suspended in the man-holes of the sewers.

The chief objection offered to this method was that it must afford only a temporary disinfection. One decided advantage was claimed, that of detecting imperfect traps and house-connections.

TRICHINOSIS.

Dr. Eulenberg reports the entire number of inspections of pork (Prussian) for the year 1884 as 4,611-689, of which number 2,624 were found trichinous, distributed in 904 districts. 250 sides of American bacon, and other preparations of American pork, were also found trichinous. The number of official inspectors was 19,521.

Inspection has been quite generally practised, with the exception of a few districts. There have been occasional requests for its abolition by some districts, in consequence of the tax imposed, and also an alleged unfairness in the treatment of city and country.[8]

Notwithstanding the vigorous inspection of pork, requiring an army of officials for its execution, outbreaks of trichinosis occasionally occur, like that of Emersleben, owing to the habit of eating raw meat. Dr. Rupprecht, therefore, proposes a law of still greater severity, which shall require the examination of thirty specimens from each animal by two inspectors acting independently of each other, with loss of position for carelessness in observation. Certificates of freedom from trichinosis to be exhibited with every sale of pork. In support of the necessity of more vigorous legislation, he cites certain localities where the hogs are constantly found to be trichinous.[9]

PUERPERAL FEVER AS A PREVENTABLE DISEASE: AMENABLE TO PUBLIC SANITATION.

Extracts from government decrees relating to physicians and midwives:

MINDEN, January 23, 1885.

Physicians and midwives are required to report every case and every suspicion of child-bed fever in their practice within twenty-four hours after knowledge of the same, to the police office, verbally, or in writing. Penalty, thirty marks, or imprisonment, for failure to report.

[5] Centralblatt für Allgemeine Gesundheitspflege. 4 Jahrgang. Page 435.

[6] La Crémation en Italie et a l'étranger de 1774 jusqu'à nos jours, par le Dr. G. Pini. Milan, 1885.

[7] Local Government Chronicle, January 30, 1886, page 86.

[8] Vierteljahrsschrift für Gerichtliche Medicin und öffentliches Sanitätswesen, October, 1885, page 305.

[9] Vierteljahrsschrift für Gericht. Med. u. öff. Sanitätswesen, 1885 Bd. 42, p. 111—110.

REGULATIONS FOR MIDWIVES FOR PREVENTION OF PUERPERAL FEVER.

DRESDEN, March 28, 1885.

1. Midwife to see patient; provide douche, metallic catheter, and bottle of weak carbolic acid, as provided in 7. 2. Midwife to keep on hand carbolic solution, glass specula, etc., to sell to patients. 3. Instructions as to clothing, etc. 4–6. Careful instructions as to cleansing of hands, arms, and finger-nails. Examination of perineum, bathing, etc. 7. Carbolic vaseline and solutions. Directions for using, and strength of solution prescribed. 8–13. Further instructions as to cleansing catheters, basins, and other appliances. No sponges allowed. 14 Midwife must neither wash nor cleanse the clothing of patient or child. 15–16. Regulations as to informing the district physician of the occurrence of cases of puerperal fever, or deaths from the same. 17. Instructions as to visiting patients ill with puerperal fever. Midwife not to attend another case under five days from last visit, and meanwhile, to wash arms, hands, and nails twice daily with five-per cent. carbolic solution, using soap and nail-brush, and cleansing cloths. Instruments also to be boiled in five-per cent. carbolic solution. 18 Midwife may visit the sick woman during these five days, but must not examine her. After this, may resume work under restrictions. 19. If other cases occur in her practice, she must go fourteen days without taking new cases, and follow the instructions of (17) as to cleansing, etc.[10]

POISONING FROM ARSENICAL PAPER.

A case of illness in a child, from the handling of arsenical glazed paper, is detailed, in which the symptoms were loss of appetite, loss of sleep, vomiting, and headache. The paper contained four centigrams of arsenic in sixty-three centigrams of paper. It was used by the child for the purpose of weaving toy-baskets.[11]

Clinical Memoranda.

POST-MORTEM IN A CASE OF MEASLES, WITH SOME REMARKS UPON THE TREATMENT OF PULMONARY ŒDEMA.

BY F. J. CANEDY, M.D., MEDICAL EXAMINER, SHELBURNE FALLS, MASS.

BEING called into one of the border towns of the county to make a post-mortem upon a young lady who had died, unexpectedly, while sick with measles, I received the following history from the girl's parents. Her age was twenty-four years, her occupation teaching in the district schools of the town, in which she had become tired, nervous and dyspeptic of late.

She came from her school in another part of the town on Friday, at the close of the school week, with a cough, headache, and general malaise, supposing that she had an influenza, but knowing that she had been exposed to measles.

Saturday and Sunday she was about the house with symptoms of a cold, but on Monday the catarrhal trouble having increased in severity, sneezing and redness of the eyes having come on, it was thought she was coming down with measles and she took her bed. Tuesday a physician from an adjoining town passing the house was called in, who diagnosticated the case as one of measles, and left some medicine. Wednesday the eruption having made its appearance upon the face, and the patient apparently doing well, word was sent the doctor that he need not call again, unless sent for.

Thursday night she was very restless and delirious, and the doctor was sent for Friday morning, who gave her bromide of sodium and tincture digitalis, which seemed to quiet her, though her pulse, as counted by her father, were one hundred and twenty or more during the day, her breathing very fast, and her heart beat with so much force as to shake her body and the bed upon which she lay, and so loud as to be heard across the room.

The doctor saw her again at 7.30 Friday evening, when he directed the medicine of the morning to be continued. At 8.30 the family thought her sleeping, and at 9.30 as she still remained in the same condition, they tried to rouse her, when they found she was in a stupor, her extremities growing cold, and much rattling in her lungs. At 10.30 she died.

Autopsy two days after death, assisted by Dr. Hiram Temple, of Charlemont. Body of a short light-complexioned girl, with much adipose tissue. The skin pretty much covered with the eruption of measles, especially upon the upper part of the body.

Subcutaneous fat two inches thick along the line of incision over the thorax and abdomen. Lungs occupied a rather small place in the upper and posterior part of the chest, the arch of the diaphragm being abnormally high, and upon lifting them up were found to be very heavy, displacing nearly their volume of water in a pail.

The trachea and bronchi were nearly filled with a serous fluid mixed with air bubbles, and upon inverting the lungs it ran in a stream from the cut end of the trachea. Upon cutting into the lung tissue, water flowed freely from the air vesicles, and dark venous blood from the vessels. The mucous membrane lining the trachea and bronchi was much reddened, thickened and softened, having much the appearance of a freshly-cut piece of beef steak. No points of broncho-pneumonia were found or deposits of any kind, the lungs having apparently been in a healthy condition previous to this attack of measles. The heart was rather small, with no evidence of disease, left side and arteries empty; right side, pulmonary artery and veins greatly distended with black tarry blood. Portal veins of the liver full of black blood. Mucous membrane of the stomach along the greater curvature reddened and swollen. Kidneys healthy.

Post-mortem examinations are made for medico-legal and diagnostic purposes, to add to our pathological knowledge and for therapeutic suggestions.

This was not a medico-legal case, and pathologically it adds nothing to pulmonary congestion and œdema, though, as we seldom have an opportunity to make a *post-mortem* in a case of measles, the evidence of the extent and severity of the tracheo-bronchitis, was interesting, and impressed forcibly upon my mind the fact, that measles are not always the trivial matter they are sometimes thought to be.

In the light of the *post-mortem* what were the therapeutic indications in this case? The cause of death was evidently congestion of the lungs and its consequent œdema; the acute bronchitis being the active cause of the congestion, and excessive deposit of adipose tissue a secondary factor of no small importance.

Treatment, to have been of any avail must have been some measure that would have relieved the over-distended right ventricle, and removed the venous stasis. Stimulants would have been manifestly useless applied to a heart beating with such force as to shake the patient's body, in its vain efforts to force the blood through the pulmonary vessels, and it seems to me that nothing but a *free venesection* from the arm, or perhaps better yet, a plentiful application of wet cups over the chest followed by hot flaxseed and mustard poultices to cover the thorax, frequently changed, with

[10] Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege, Bd. 17, Heft. 4, 1885.
[11] Wiener Med. Wochenschrift, 1885, No. 1.

a judicious administration of stimulants when the fatigued heart began to falter, offered the patient any chance.

These therapeutic suggestions are illustrated by the following cases: A large and very fat man, aged eighty-three years, who had suffered for many years with mitral insufficiency and latterly with cardiac dilatation, and shortness of breath upon exertion, had been down with influenza for a few days, when his breathing became so difficult as to alarm his family, and I was summoned in haste to see him.

I found him sitting in a chair, suffering most intense dyspnœa, expectorating frothy bloody water. Pulse very irregular, rapid and feeble, lips, face and fingers cyanotic and extremities as cold as those of a corpse.

With a lancet I freely scarified the skin in a half dozen places over the front and back of his chest, over which I applied tumblers, having first exhausted the air by burning cotton in them, and in this way drew a half pint or more of blood, at the same time putting his feet and hands into a hot mustard bath, and giving him two grains of carbonate of ammonia every fifteen minutes. After the cupping I ordered his chest covered front, sides and back with hot mustard and flaxseed meal poultices, and with the purpose of unloading the portal veins, and thus relieving the right breast, administered that much prized and perhaps much abused cathartic of our fathers, ten grains of calomel with fifteen of jalop, and left the old man with the feeling that I could not be charged with omissions in this case at any rate.

The next morning I was much gratified to find him entirely comfortable, and without any vestige of the alarming pulmonary œdema of the previous evening.

Was sent for by another physician to do a tracheotomy upon a little girl aged four years, dying with membranous croup. The child, who had been struggling with most intense dyspnœa for many hours, was thoroughly exhausted and very cyanotic, and when placed upon the table, pulse and respiration ceased. Thinking that the introduction of the tube into the trachea might resuscitate her, I proceeded with so much haste and nervousness, as to cut one of the superior thyroid veins, causing a profuse flow of black blood, when my patient at once began to breathe, the pulse to beat with more strength than for hours, and the purple hue faded out of lips and skin. The hæmorrhage was arrested, the trachea opened, the tube inserted, and the child fell off into a quiet sleep, but died two days later with capillary bronchitis.

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. M. BUCKINGHAM, M.D., SECRETARY.

MARCH 8, 1886, the President, DR. F. W. DRAPER in the chair.

PULMONARY ŒDEMA RAPIDLY APPEARING AFTER THORACENTECIS.

DR. BOWDITCH reported a case that he had seen in consultation, and which was the second case of the kind that he had met with in practice.

The patient was a man who had had severe rheumatism seven months before, which had resulted in a diseased heart. There was little rubbing, but the area of cardiac dulness was increased, and there was some dyspnœa. Digestion was fair, counter-irritants were applied over the heart and gave some relief.

Fourteen days later Dr. Bowditch saw the patient again. In the meantime there had been a left-sided pleural effusion, which still existed, and for which tapping had been attempted but without getting any fluid. The physical signs were different from when the man was last seen by the speaker. Dulness extended backward from the left axillar line. The front was somewhat tympanitic. The heart was pushed up and to the right. Aegophony was heard, and also some râles in the back, but these last were probably transmitted. The speaker had urged another attempt at tapping, and owing to the patient's weak condition it was done while he was lying down, the needle being inserted between the seventh and eighth ribs. The discharge of serum was very free, and three pints were withdrawn. Before this quantity had been wholly removed the patient, who was sucking ice, coughed; but the needle was not immediately removed, as the operator believed that the cough was merely choking over the melted ice. As the cough continued the needle was removed.

DR. BOWDITCH does not mean to say that the cough had anything to do with the final result. Dyspnœa and death followed in less than forty-eight hours. Autopsy showed an expanded lung full of serum.

This is the second case of the sort that Dr. Bowditch has in three hundred and ninety-eight operations, and the other had recovered.

DR. E. H. BRADFORD read a paper on

THE CAUSES OF LATERAL CURVATURE.[1]

DR. HAVEN asked the reader if weight habitually carried on one arm and transmitted from the shoulder, had in his opinion that effect in causing curvature which had been ascribed to it.

DR. BRADFORD said that in that case the position would be faulty, and therefore would predispose to a lateral curvature if other conditions were present. It has even been supposed that the peculiar curvatures thus arising from different trades might be sufficiently distinct to admit of classification.

To other questions Dr. Bradford answered that rickets is not usually a cause of lateral curvature unless we assume the rickets of adolescence; for the reason that rickets is commonly over before the age when heavy enough weight is carried to cause curvature, the weight of the head in early childhood being slight, while lateral curvature rarely begins before the eighth or tenth years. A rickety patient either lies down or holds himself erect. He does not usually loll about.

DR. J. J. PUTNAM inquired if the paper covered all the causes of lateral curvature.

DR. BRADFORD said that he thought that these factors and these alone are efficient.

In answer to a question by Dr. Fitz, he said that the changes in the bone and cartilage are in his opinion nutritive changes secondary to position, which last is due to muscular weakness in most cases. Muscular weakness is not the only possible cause, as is shown by the reported case of two school-girls, twins, who occupied in common a narrow bench, and who leaned apart in order to gain room. Here lateral curvature of opposite sides followed, which evidently was not because of weakness but of long-continued position. The reader said in answer to questions, that it is perfectly possible theoretically to effect a cure in cases

[1] See page 241 of this Journal.

of marked osseous change; but that practically treatment for this object must be so rigid and so long continued that most surgeons are content with arresting the process. Where no osseous change as yet exists, muscular exercise may correct the deformity, but otherwise it will not do so. Preventive treatment consists in general care of the child's health, in addition to rest and strengthening of the weak muscles by proper exercise.

The amount of rest and the question of removal from school must be determined in individual cases. The speaker decides the question of overgrowth by comparing the weight, height, etc., with the average of American school children at the same age, as shown in Bowditch's tables. The strength of the muscles of the neck and of the back is tested and compared with what is expected at the given age or size.

DR. J. B. AYER reported a

CASE OF SCARLET FEVER (SECOND ATTACK) PRECEDED AND FOLLOWED BY A SCARLET RASH.

November 25th, he was called to see a boy, eleven years of age, whose body was covered with the characteristic scarlet fever rash, but there were no constitutional symptoms present. For three days the rash was well marked. There was no desquamation. He had had at five years old a typical attack of scarlet fever.

January 25th. He was surprised to find him again broken out with a similar rash, but more intense than before. At this time, however, he was ill; vomiting, fever, and congestion of the fauces were prominent, and desquamation of over three weeks' duration followed.

The house had hardly been disinfected when he was called, March 1st, to see the rash for the third time in fourteen weeks. Excepting a slight fever at the outset there had been no other constitutional symptoms with this attack. The rash lasted three days.

Now, the ninth day, his skin is rough in places, but the speaker finds no proof of fresh desquamation.

It is an interesting fact that the child's mother has passed through two severe attacks of scarlet fever.

In this connection Dr. Ayer mentioned the case of a girl ten years old, whom he isolated a year ago on suspicion of scarlet fever. He concluded at the end of five days, when the rash disappeared, that it had been of an erythematous character, as it had been situated principally in the flexures of the joints, and he dismissed the patient, but three days later she began vomiting and developed a typical attack of scarlet fever.

ENLARGED PROSTATE: DIFFICULT CATHETERIZATION: QUESTION OF CYSTOTOMY.

DR. GANNETT showed the enlarged prostate of a man of seventy-five, who had never been catheterized, and who died of another disease; but the specimen was interesting because of the great difficulty it would have presented to the introduction of any catheter but a soft one. One of the lateral lobes was much enlarged, bulging into the urethra and causing it to have a sharp lateral curve. Immediately beyond this was another sharp curve; this time in a vertical plane and caused by enlargement of the third lobe.

Dr. Gannett also showed the genito-urinary organs from a hospital patient of Dr. Bradford's. There was great hypertrophy of all the lobes of the prostate there contained diverticula, in some of which small calculi had lodged. There were old false passages and there was cystitis.

DR. BRADFORD said that owing to the great difficulty made by the false passages, there had been a question of immediate cystotomy, but that it was decided that as the patient was eighty years old, that immediate cystotomy was unjustifiable. The patient lived but three days, and considering the result it may be a question which would have been the better operation.

ANCHYLOSIS OF ELBOW: FRACTURE OF ELBOW: GUNSHOT WOUND OF CHEST.

DR. BRADFORD showed an anchylosed elbow that he had excised, and which was a good specimen of this deformity, as it follows caries.

He also showed a large number of splinters of bone of various sizes, broken off from an old woman's elbow, by falling upon it.

He also showed the temperature chart of a case of traumatic pneumonia from a gun-shot wound in the chest.

BOSTON SOCIETY FOR MEDICAL OBSERVATION.

H. L. BURRELL, M.D., SECRETARY.

MEETING February 1, 1886, DR. G. F. JELLY in the chair.

DR. T. M. ROTCH reported six cases which had been under his care:

(1) SPASMODIC ABDOMINAL CONTRACTIONS. (2) PARALYSIS OF ARM IN CONGENITAL SYPHILIS. (3) TWO CASES OF EMPYEMA; I. AT EIGHTEEN MONTHS, II. AT FOUR YEARS. (4) DOUBLE PLEURITIC EFFUSION AT THIRTEEN YEARS. (5) SIMULATED VESICAL AND RENAL CALCULUS AT TEN YEARS.[1]

DR. A. N. BLODGETT said that he had been particularly interested in the cases of empyema reported by Dr. Rotch and felt that these cases were often neglected by practitioners. He had recently had a case where he had operated and had been much pleased with the result. He had applied the mackintosh to get a "valve action," as described by Dr. Cabot sometime since, and had not been successful in getting the mackintosh to act as a perfect valve. He spoke of the difficulty of getting the tubes to stay in position and said that he had at last taken a section of a rubber catheter and had softened it by heat so that it stayed very well in position.

He had found that iodoform by its odor was irritating to the patient and to the friends, and mentioned the value of mixing iodoform with coumarin.

This mixture completely masks the odor of iodoform and has an odor not unlike vanilla, if one could think of vanilla in the presence of iodoform. Further, coumarin does not diminish the antiseptic action of the iodoform. In one of his cases he had, on opening the chest, a very offensive discharge, the cavity was irrigated with Labbaraque's solution, one to twelve, with the result of completely removing all offensiveness from the future "washings-out." The Labbaraque's solution had no solidifying effect upon the pus, as described by Dr. Rotch.

DR. A. H. NICHOLS related the case of a middle-aged woman, formerly an over-worked teacher, who for many years had manifested spasmodic contractions of the abdominal muscles similar to those described by

[1] See page 242 of this Journal.

the reader. This patient was by no means of a nervous temperament, for during this period she had sustained with fortitude and without an anæsthetic several minor surgical operations. These involuntary contractions though usually moderate were at times severe enough to convulse the whole body, and were then accompanied by a loud guttural sound as if the diaphragm was involved. These movements resembled the contractions of chorea in that they were aggravated by the presence of a stranger, and were uniformly suspended during sleep; but they had not exercised any appreciable effect in impairing her general health.

Dr. W. B. Hills said that the case reported by Dr. Rotch of "symptoms simulating renal and vesical calculus" was typical of a class of cases that occur which are a source of much anxiety to both patients and physicians. He felt that there was a great deal to learn regarding the uric-acid diathesis.

Not infrequently when he reported to a physician that there was a deposit of uric acid in the urine he was asked, Why is the uric acid there? and, What shall we do about it? An occasional deposit of uric acid in the urine is of no consequence, but when it is persistently present it certainly should be considered as endangering the patient to the formation of a calculus. It is generally known that the urates exist in the blood, and they may be deposited in the following places: *First*, in the tubules of the kidney where they may cause disturbance or may pass off in the form of gravel. *Second*, in the bladder where they may form a calculus. *Third*, outside of the body where it is of course of no importance.

There are certain conditions of the organism that seem to favor the formation of uric acid; namely, it is more common in winter than in summer, it recurs in chronic diseases of the respiratory organs, it occurs where there is an imperfect action of the skin, it follows attacks of gout and when the food is not properly assimilated. In children, Dr. Hills felt that it was due to some derangement of the system. The symptoms are pain in the bladder and pain in the back. Regarding treatment he considered that the rational way of treating the affection was to favor oxidation. No general prescription can be given which will be useful in every case. The physician must systematically interrogate the various functions of the body and correct the one that may be deranged. The patient should have plenty of fresh air, moderate exercise, a proper diet, and the function of the excretory organs should be set aright.

Medicinally the administration of the alkalies favor the solution of the urates, and the giving of large quantities of water is a useful adjunct.

It is interesting to know that the supervening of any intercurrent affection frequently causes the uric acid to disappear from the urine.

Dr. A. T. Cabot said that he was sorry to hear Dr. Minot speak slightingly of antiseptic treatment in empyema, for in his experience the aseptic conduct of the wound had the greatest influence upon the safety of the convalescence. Of twenty cases that he had operated upon in this manner, about one-half were in private practice, the other half in hospitals, and the success in the private cases had been much more gratifying than in those treated in hospital practice. This would seem to show that the septic influences encountered in hospital atmosphere and dressings did retard the process of cure. And this belief is still further strengthened by the fact that two of the hospital cases which did exceptionally well were ones in which Dr. Cabot did all of the dressings himself and brought in the dressing materials (gauze, etc.) from outside. One of these cases was that of a young man in whom the pus evacuated was of an exceedingly fetid character. The cavity was closed in twelve days, the tube was taken out and the tissues in which it had lain quickly healed.

The other patient was a young woman about twenty-eight years old, and in her case the tube was taken out on the seventeenth day, and the opening quickly closed.

As children do well by many different methods of operating, it is not easy to draw conclusions from their cases as to the efficacy of different plans of treatment. In adults, on the other hand, the case is different and a cure is far more difficult to obtain, yet the speaker could recall five cases of adults in which a complete cure was obtained within a month by the method of treatment which he advocated.

This is a record which he had not seen equalled in the reported statistics of any other method. In regard to the valvular action to be obtained by the proper application of the rubber cloth or mackintosh, he regarded it of the greatest importance in promoting the rapid expansion of the lung and closure of the cavity.

Any one without a moustache can easily test this by holding a piece of rubber cloth lightly over the mouth and forcibly breathing in and out while the nose is held.

In dressing the chest the mackintosh should entirely overlap the innermost dressing of gauze, and then the elastic dressings outside of it hold its edges applied to the skin and make a very perfect valve. Under this dressing properly applied, the lung is often fully expanded in from twenty-four to forty-eight hours. This of course only in cases of simple empyema where there is no consolidation of the lung and where it is not tied up by adhesions.

Suppose such a lung is released by the emptying of the cavity of pus; as it expands and the two surfaces of the pleura come together they quickly adhere. Now if the expansion is so favored that it takes place quickly and the lung is at once brought down to its normal position, it adheres there and the cavity is soon closed. Suppose, however, on the other hand, the lung only partly expands and so partially fills the pleural cavity. Here again it becomes adherent, but it becomes adherent in the wrong place and these adhesions afterwards make its further expansion difficult if not impossible, and the closure of the remaining cavity has to be effected by the collapse of the chest wall and displacement of neighboring viscera.

These considerations show the wisdom of any course which will favor the rapid expansion of the lung, and the proper intelligent application of the mackintosh will do much in this direction.

Dr. Blodgett said that his operation was strictly antiseptic and was kept aseptic throughout.

Regarding his failure to have the mackintosh act as a valve, perhaps he should have said, "that he failed to get that degree of valve action that he had hoped for."

Dr. Cabot said that if a lung was consolidated or had been perforated, of course the valve action of the mackintosh in assisting the expansion of the lung would be greatly impaired.

Dr. Rotch referring to the difficulty that Dr. Blodgett had met with in adjusting the mackintosh,

as recommended by Dr. Cabot, said that he also had failed to make it work satisfactorily, although he had employed it in both cases, but he had purposely avoided mentioning this, as he had come to the conclusion that the method was a good one, and that he himself was as yet not sufficiently skilful in his application of it to justify criticism.

He also remarked that he had been greatly aided in the antiseptic precautions taken in the second case, by Mr. Perkins, who assisted at the dressings.

PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. M. GREEN, M.D., SECRETARY.

TWENTY-FIFTH ANNUAL MEETING, January 9, 1886, the President, DR. A. D. SINCLAIR, in the chair.

PROLAPSE OF THE FUNIS.

DR. RICHARDSON alluded to a case of twin labor at eight months and a half, complicated with prolapse of the cord. In this, as in most other cases, it was easy enough to replace the cord within the uterus: the difficulty in all such cases lies in carrying the funis sufficiently high, and keeping it there sufficiently long to enable the presenting part to occlude the superior strait, and thus prevent a second prolapse. In the case referred to, not having at hand any of the instrumental devices for replacing the cord, he made use of the following expedient:

An English gum-elastic catheter was softened by immersion in hot water, the stylet slightly withdrawn, and, by bending back the tip of the catheter, made to protrude from the eye. A loop of narrow tape about three inches long was then placed around the funis, and the two ends of the loop passed over the tip of the stylet, which was then slipped back through the eye into the tip of the catheter. The funis, being thus secured to the end of the catheter, was readily carried high up into the uterus: the catheter was allowed to remain in situ until the presenting part had occluded the brim; then the stylet was withdrawn, thus freeing the funis, and the catheter was taken away, leaving the loop of tape behind to escape after the birth of the child. In subsequent cases, this method had commended itself to him as safe and efficient: moreover, it did not require a special instrument for its performance.

DR. BLAKE said that he had tried various devices for replacing the cord, but had not usually been able to keep the cord in the uterus after he had replaced it there: he had usually, therefore, in such cases, delivered as soon as possible with forceps or by version.

DR. REYNOLDS said that in roomy pelves the cord could often be put in a position where it would escape pressure. He also alluded to the danger, in rapid deliveries, of catching a loop of cord between the forceps and the head, and thus destroying the child: the accident cannot always be avoided; but the possibility of its occurrence should be borne in mind.

POST-PARTUM GLYCOSURIA.

DR. MINOT reported the case of a healthy woman of nervous temperament, who was normally delivered of a healthy child, and whose convalescence progressed favorably for ten days. On the morning of the eleventh day, the mother awoke with a headache. The temperature was elevated one or two degrees: there was no chill, no pain, and no tenderness. The skin was hot, but not dry: the lochial discharge was normal. The specific gravity of the urine was 1030: there was a slight trace of albumen, and a large trace of sugar. The bowels had not moved on the day before, as they had regularly done previously. After the exhibition of purgatives the symptoms declined, and all went well the next day. The gravity of the urine was 1020, and the amount of sugar was about the same. After a few days it had nearly disappeared. Dr. Minot had never noticed the complication of glucosuria in the puerperal condition, and asked if other members of the Society had met with such cases. He would not have attached much importance to the occurrence, if the patient had not been of a nervous temperament.

DR. RICHARDSON said that sugar was often present in the urine during the establishment of lactation; and also at any time during lactation when there is any marked disturbance of that function.

SHOULD INFANTS BE NURSED AT NIGHT?

DR. REYNOLDS asked the opinion of members of the Society about the advisability of feeding young infants at night. An undisturbed night's rest is of great benefit to the nursing mother; but is it not cruel to compel the infant to go for eight hours, from evening to early morning, without nursing?

DR. T. M. ROTCH, present by invitation, thought it was injudicious to begin to train an infant to go without food at night during the first two months. During this time the infant's welfare is liable to be disturbed from other causes, and therefore he believed the feeding should be as regular at night as in the daytime.

DR. BOARDMAN believed that infants should sleep at night, as well as adults. If the mother has a sufficiently abundant supply of milk to satisfy the infant in the daytime, there is no reason why the child should be nursed after the mother's bedtime until morning. If the child is restless, it does not follow that it needs nourishment: oftentimes change of position or attention to the clothing and napkins will quiet the infant and cause it to go to sleep again. The difficulty of maintaining discipline is with the mothers, who are too apt to believe that a restless infant ought to be nursed, or who find the breast a more convenient way to quiet the child. He had succeeded in many cases in his practice in carrying out his views on this subject, and had never seen anything but good result.

MASSACHUSETTS MEDICO-LEGAL SOCIETY.

W. H. TAYLOR, M.D., RECORDING SECRETARY.

MEETING at the Rooms of the Boston Medical Library Association, February 3d, 1886.

The meeting was called to order at 12.05 P. M., by PRESIDENT WINSOR. Present, twenty-nine members. Records of the last meeting were read and approved.

The Secretary read a communication from Clark Bell, Esq., of the New York Medico-Legal Society, requesting the appointment of two members of this Society to act with him in preparing statistics concerning the insane, in conformity with the plan offered at the International Congress held at Antwerp, Belgium.

On motion of MEDICAL EXAMINER TOWER, the President was appointed one of a committee of two to communicate with Mr. Bell upon this subject. On motion

of Medical Examiner Draper, Medical Examiner Ira Russell, of Winchendon, was appointed as the second member of this committee.

Medical Examiner Paddock read a paper upon

THE DUNBAR CASE.

The case was of interest from the fact that it was difficult to determine from post-mortem appearances alone, whether it was a suicide or homicide. The essayist, in a careful and interesting paper, gave his reasons for favoring the view of suicide.

Medical Examiner Fish read a paper upon the same case, giving a very ingenious explanation of the method which, in his opinion, the suicide employed to effect his purpose.

The papers were discussed by members Holmes, Bronson, Hurd, Adams, Paddock, Fish, Tower, Winsor, Harris, and Abbott.

On motion of Medical Examiner Holt, Dr. J. L. Sullivan, of Malden, Ex-Medical Examiner, was made a regular member of this Society by a unanimous vote.

Medical Examiner Harris made a verbal report of a case of resuscitation of an infant nine or ten days old, who was exposed to the cold and wet of January 31st and February 1st for twenty-eight hours without nourishment. Adjourned.

Recent Literature.

A Reference Handbook of the Medical Sciences, Embracing the entire Range of Scientific and Practical Medicine and Allied Science. By Various Writers. Illustrated by Chromo-Lithographs and fine Wood Engravings. Edited by Albert H. Buck, M.D., New York City. Volume I. New York: William Wood & Co. 1885.

The first volume of 808 pages, imperial octavo, of the eight which it is thought will be necessary to cover the field as proposed, is very creditable both to the publishers and to the editor. If the other seven volumes reach the same standard the work will be one of unusual value for consultation "on all the important topics belonging to the broad domain of medicine."

In deciding upon the character and scope of the handbook, the editor has to choose between two courses: "either to retain a reasonably full list of topics and give to each its proper share of space, or to curtail the list, and so gain enough space for a fairly satisfactory and thorough treatment of at least the more important subjects." The former plan, the one generally pursued in books of reference which can with any propriety be called handbooks, favors brief and unsatisfactory articles; the latter plan necessitates the omission of some of the less important topics. The latter evil seemed to the editor, and we think, justly the less of the two; accordingly he has aimed at presenting to the profession a medical encyclopædia whose articles shall convey a certain fullness, rather than one which covers — though superficially — every possible title in medicine and the many collateral sciences. The larger portion of the space is devoted to practical subjects — the diagnosis and treatment of disease — but such collateral departments of medical science as botany, climatology, embryology, physiology, physiological and pathological chemistry, applied anatomy, medical jurisprudence, military and naval surgery have been by no means neglected.

Each article is signed with the writer's name. Of course, when coming from so many different writers — there being no less than ninety contributors to this first volume — the articles are of varying degrees of merit. In general, however, our examination of the volume, which has been far from a hasty one, leads us to the conclusion that the writers, even for the less important subjects, have been carefully selected, and that they have done their work well. Without mentioning any individual names, we do not hesitate to say that the treatment of some of the topics could not easily be improved upon.

The illustrations have been generously and in most cases judiciously supplied. The wood-cuts are well made and really illustrate instead of confusing the text; the volume contains in addition four handsome chromo-lithographic plates. The paper is good and the type is clear.

The expense of publishing such a work is necessarily very great, entirely apart from any remuneration offered to the writers of articles: the cost to the subscriber must also be large, but the purchaser has the consolation that he is really getting something for his outlay. We understand that the second volume will appear very shortly.

The Essentials of Physical Diagnosis of Thoracic Diseases. By E. Darwin Hudson, Jr., A.M., M.D. New York. 1885. pp. 63.

The title-page tells us that this manual was prepared for the use of the physicians in the class of general medicine and diseases of the chest of the New York Polyclinic. The methods of no two teachers are precisely the same in all respects, and sometimes differ widely in detail; a teacher is seldom, consequently, quite contented with his text-book unless he has written it himself, and it may be presumed that this fact has something to do with the appearance of this new claim on the attention of those studying physical diagnosis.

There is one special difficulty the medical student must constantly face, a difficulty unavoidable in a measure, because dependent on the progressive nature of our science, but so real, that instructors should never lose sight of it, striving to lessen it by every means in their power. We refer to medical terminology, which is so confusing in this relatively small subject of physical diagnosis, that a Committee was appointed at the London International Medical Congress to propose a uniform nomenclature. The Chairman of the Committee, Dr. Flint, than whom, certainly, no one is more fit, reported to the American Medical Association at the New Orleans meeting, two lists of terms, one his own, the other that of the English members of the Committee.

These two lists are very nearly identical, and either of them is, in our opinion, preferable to the classification of Walshe, whom Dr. Hudson follows in the main. Walshe thought that his classification could not be simplified without a loss in accuracy, but most authorities of the present day think otherwise. No American has done so much for physical diagnosis in thoracic disease as Flint; his teachings have extended throughout the land, and have been influential in England and on the Continent, and we fail to see the advantage of departing materially from his terminology, which is sensible, simple, and complete.

Hudson follows Loomis in the error — as our senses tells us — that tympanitic resonance is lower in pitch than vesicular. "Cracked pot or cracked metal quality is an air-impulse sound — air in a cavity rushing against its walls. Over trachea and large bronchial tubes, the percussion-sound is tubular. . . . the pitch is low, not hollow nor tympanitic, and the duration is long and ringing." What a hollow or tympanitic pitch, or a ringing duration may be, we do not know. Another example of want of care, is the use of "sputa" as if it were the nominative singular — "the sputa is:" this we note twice.

Cardiac hypertrophy is defined as "enlargement of the heart as a whole, or of the walls of any one of its cavities," a definition which does not clearly exclude dilatation. The prognosis of hypertrophy is said to be bad if that condition associated with dilatation, a statement far too general and very misleading. Not a word is said as to the bearing of enlargement of the heart on the differential diagnosis between organic disease and functional disturbance.

We have thus sought out some of the details which strike us as open to criticism; it only remains to add that the proof-reading leaves much to be desired.

A Manual on Animal Vaccination, Preceded by Considerations on Vaccination in General. By Dr. E. WARLOMONT, Founder of the State Vaccinal Institute of Belgium, etc. Translated by ARTHUR J. HARRIES, M.D. pp. 168. London. 1885.

This excellent translation comprises mainly, the fifth and sixth chapters of Dr. Warlomont's valuable treatise entitled, "*Traité de la Vaccine et de la Vaccination Humaine et Animale.*"

The author has added a note from Pasteur, which contains the following just comments on the character of the work:

"From one end to the other, your treatise is excellent for its clearness, for the perfect knowledge of the subject displayed, and for the place which you so judiciously give in it to modern discoveries, and to the relations which they hold to the questions of small-pox and vaccination, each of such great general and scientific interest."

The first portion of the book is devoted to the modes of origin of vaccine lymph. The celebrated remark of Depaul is quoted: "There is no vaccine-virus; vaccine is nothing but modified small-pox attenuated in its passage through the system of the horse or of the cow," and the author sums up the question as follows:

"We are compelled for the present, and we are sorry for it, to consider the theory of unicity as simply a hypothesis. A respectable hypothesis, however, for there is no other, that gives so well, a key to the complex problem of which we have been seeking the solution." This is more than Dr. Warlomont was wont to admit in his earlier publications.

The directions as to arm to arm vaccination, the choice of vesicles, and the preservation of vaccine lymph, are admirable. American authorities will be pleased to notice the prominence which this distinguished authority gives to ivory points, as employed for the storage of lymph.

The author alludes to the putrefactive changes and the mouldy smell to which the contents of capillary tubes are liable. Any competent microscopist who will examine the contents of a capillary tube which has been filled more than forty-eight hours, will find abundant reason to condemn their use for the purpose of vaccination.

In the chapter on animal vaccination, its advantages are clearly set forth. These are, mainly, the immunity from vaccinal syphilis, and the relative paucity of humanized virus. In support of the theory of vaccinal syphilis, the translator also judiciously appends a note containing the results of Dr. Cory's well-known experiments upon himself.

In regard to a third reason for employing animal vaccination, the degeneration of humanized vaccine, the author concludes: "It is not the vaccine that degenerates, but the stocks, that use, or abuse it." The remarks on the technics of animal vaccination are of special interest to propagators of virus.

Certain usages advised by the author are open to objection. He recommends the employment of mucilage of gum-arabic as a coating for the protection of lymph upon points, a measure of doubtful utility, for two reasons: its liability to employment as an adulterant or substitute, and also its comparative insolubility.

Vaccine in pulp, either with or without glycerine, as well as any other moist methods of preservation, like the cones once employed by certain American producers, are liable to serious objections.

The question of the inoculability of tubercle is carefully discussed, its possibility having been urged in objection to animal vaccination, and while such possibility is admitted, its inoculability by *superficial* insertion of the bacilli (the common method employed in vaccination), is shown to be impossible. The following sentence, inserted in the English edition, commends itself to all American producers of vaccine lymph. A vaccine propagator who would resort to the careful methods therein proposed, and which is said to be practised at the Belgian Vaccinal Institute, would be worthy of public commendation and confidence:

"There is a method of placing beyond suspicion and any possible danger the preparations of animal vaccine furnished to the medical public, which consists in only delivering it to them after the animal from which it has been taken, has been proved by autopsy to be perfectly healthy."

The Temperance Teachings of Science. Adapted to the Use of Teachers and Pupils in the Public Schools. By A. B. PALMER, M.D., LL.D. Boston: D. C. Heath & Co., Publishers. 1886.

This book is a safe hand-book for the purposes for which it was designed; and teachers who wish to give oral instruction upon the subject of the alcohol habit will find it useful. The author employs the term temperance in its popular rather than its actual sense; the book being devoted to the subject of alcohol to the exclusion of other harmful narcotics and stimulants.

The book is divided into twelve chapters, in which the effect of alcohol upon the various organs of the body appears to be correctly and briefly stated.

— Vogel relates the following in his "Diseases of Children": "I once treated an American lady, who still suckled her son, who was *two and a half years old*, till one morning, when the strongly-developed, robust child was called to be nursed, he very kindly replied: 'I thank you, dear mamma, the nursing is too tedious for me.'" —*Gaillard's Medical Journal.*

Medical and Surgical Journal.

THURSDAY, MARCH 18, 1886.

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THE SURGICAL TREATMENT OF PERITYPHLITIS.

MEDICAL practitioners are, we believe, fully agreed as to the propriety of surgical interference in those cases of perityphlitis where suppuration has taken place in the cellular tissue about the appendix. The diagnosis of a perityphlitis is not ordinarily difficult, but to recognize the exact moment when expectancy should yield to action and the knife should make a passage for the pus already formed is certainly a matter of difficulty. To wait for fluctuation is to expose the patient to all the dangers of perforation and peritonitis, and the physician himself to the accusation of dilatoriness and timidity where the only safety lies in bold and immediate action. To operate before the formation of pus is certain to expose the patient to the dangers of an operation of some gravity for a disease which often recovers without such interference.

The indications can hardly be called definite. Everything depends upon an exact diagnosis, but the means of making an exact diagnosis are not perfectly understood, and he who adds to our means of definitely distinguishing the condition and fixing the time of operation will deserve the thanks of his colleagues.

Dr. Wm. T. Bull, of New York, has recently reported a case of perityphlitic abscess in which an incision was made at an earlier moment than in any case previously reported.

The patient, a gentleman thirty years of age was suffering, when first seen, from very severe pain in the right iliac fossa radiating down the thigh, with a temperature of 103° and pulse of 120. The abdomen was normal on examination except that in the right iliac region there was dulness and exquisite tenderness (so that percussion was very unsatisfactory), and a sense of fulness or increased resistance on palpation. These were the only signs of an exudation. He had been in bed but forty-eight hours, although for ten days previously he had experienced a steady dull pain in the inguinal region, with occasional paroxysms which were more severe. He was constipated for a week during this time, but the bowels moved naturally three days before I saw him. His symptoms were not sufficiently acute to deter him from a week's railroad travel, and on his return they presented the features mentioned above.

Dr. Kinnicutt, who was the medical attendant, had suggested exploration, and it was done at once. The needle, thrust to a depth of three inches directly backward into the iliac fossa, produced no pus; nor was any obtained when it was thrust in front of and behind this site. A longer needle was then pushed from a point behind and above the anterior superior spine, toward the middle of the fossa, a depth of four inches, and through it the syringe drew some very offensive and bloody pus. The incision was made a few hours later, under ether, above and to the outer side of the middle of Poupart's ligament. The tranversalis fascia was thickened and grayish in color, the muscular layers absolutely healthy in appearance. An incision through the fascia evacuated about an ounce of pus, very dark from blood, and of characteristic odor. No foreign body escaped, and as the time of operation was so early I did not deem it wise to thrust the finger into the abscess cavity; but an elastic bougie showed that it extended from the centre of the incision about two inches toward the symphysis and three or four toward the lumbar region. The pain and fever disappeared next day. The cavity reduced to a sinus four inches deep was slow in healing. At the end of six weeks a foreign body was detected in it at a depth of three inches and removed with dressing forceps. It proved to be a calculus, doubtless formed in the appendix.

The sinus closed in a week. The concretion is as large as a white bean, calcareous in composition, the salts being arranged in concentric laminæ, and with no foreign body as a nucleus.

It is to the comments of the author that we wish to draw attention, and especially to his remarks upon the use of the aspirator in diagnosis.

"In this instance," says Dr. Bull, "the operation was performed at an earlier moment than in any case that I have seen recorded, and I think that the thorough exploration with the needle and hypodermic syringe was the chief factor in bringing it about. I have several times withdrawn pus from the iliac fossa, through a puncture made from the lumbar region downward and forward toward the middle of the iliac fossa, when punctures directly into the fossa or the tumor occupying it were fruitless. A good-sized needle is indispensable (No. 3 or 4 of the French scale for urethral instruments) and a "tight" syringe. These punctures are "harmless" (we trust we shall escape the charge of too great carefulness in the use of words if we prefer to say these punctures are so nearly harmless, that the possible danger should be disregarded when anything so important as a positive diagnosis is to be gained), "and should be made into the lumbar region, as well as into the iliac fossa. We are familiar with their value as a means of diagnosis, but I would like to emphasize

the advantage of making such thorough explorations as I have described.

"But I desire to claim something more for the needle, and that is, that it is the only trustworthy means of ascertaining the presence of pus. Both the general symptoms and the local conditions mislead us in this respect. There are patients who are attacked with high fever, severe pain, chill, and even sweating, whose inflammation undergoes resolution; and there are others in whom the abscess reaches great proportions with trifling disturbance.

"The necessity of opening the abscess early — and long before fluctuation has occurred — has been insisted on with justice by a number of writers. I have but one suggestion to make on this point, and that is, in determining the *time* to operate, the *duration* of the illness should play a rôle subordinate to that of the results of exploration with the needle. It is certainly undesirable to operate too early, when the pus may not have formed, or the inflammation be going on to absorption. It is equally undesirable to defer the incision, and subject the patient to the risks of an unfavorable course on the part of the pus. A sort of 'time allowance' has been fixed by some surgeons. Gouley fixes the seventh or eighth day as the proper time for incision; Weber 'not beyond the ninth or tenth'; Sands, from the twelfth to the eighteenth day. From this discrepancy, it is obvious that the 'time allowance' is of no use, and that it will be far wiser to be guided by the evidence afforded by *needle exploration*."

This case of Dr. Bull's draws attention to an anatomical detail in the diagnosis of pericæcal abscess which is not sufficiently insisted upon: that is, the formation of the pus beneath the transversalis fascia. To wait for fluctuation is to wait until the fascia has been perforated, and the tendency of the abscess to spread beneath the fascia before seeking an external outlet, is well illustrated in this case by the distance to which the bougie penetrated: the cavity held but an ounce, but extended some five or six inches. Some remarks of Professor Pepper describe very well the condition of affairs.

"It is not too much to say, that the unjustifiable delay permitted in many cases of typhlitis, whilst hoping, day after day, for the more definite detection of suppuration, is the direct cause of many avoidable deaths. It is true that ordinarily, the approach of suppuration will be announced by a change in the constitutional symptoms, by the occurrence of rigors, followed by sweats, febrile movement of a remittent or hectic type, and increased acceleration of pulse. But, on the other hand, it is certain that after an abscess has already formed, the general symptoms may merely indicate increasing gravity of the case, without presenting the above indications of suppuration. So, also, it must be borne in mind, that the existence of a pericæcal abscess may be unattended with the local appearances which usually accompany suppuration. In many cases where a considerable amount of pus has been found, the cæcal tumor, immediately before operation, was hard, absolutely without fluctuation on palpation, and resonant on percussion. This may be due to the fact that at times, the pus is chiefly confined behind the thickened and inflamed cæcum, which is pressed forward against the abdominal wall; or, again, that the pus, either collected to the outside, or in front of the cæcum, is so compressed by the tense transversalis fascia and abdominal muscles, that fluctuation cannot be detected on percussing over the abscess until an incision has been carried down to, or through this fascia."

CREMATION, A CONSERVATIVE VIEW.

IN the history of every alleged reform there are fortunately always to be found men of conservative tendencies, who put on the brakes long enough to give an opportunity for a calm and quiet reconsideration of the subject. To move a reconsideration does not jeopardize a really needed reform, and it enables the public to revise their beliefs which are perhaps in danger of becoming unduly ardent under the exhilarating effect of too rapid and uninterrupted "progress."

At a recent meeting of the New York Society of Medical Jurisprudence and State Medicine, Dr. Frank H. Hamilton read a paper entitled "Cremation not Required as a Sanitary Measure." The subject had been brought up by the introduction of a resolution by Dr. W. M. McLaury that the Society request the Legislature to pass an act making cremation compulsory in the case of paupers and those dying of contagious or infectious diseases. Dr. Hamilton said that the danger to life and health from burial four to six feet under the soil, as practised in this country, had been greatly exaggerated, if, indeed, it could be said to exist at all. He cited the testimony of the eminent French authorities, Duchatelet, Dubois, Dupuytren and Boyer, who all concurred in the opinion that it was an error to suppose that the air in the neighborhood of graveyards or dissecting-rooms was contaminated by emanations from dead bodies. There was no more danger arising from the presence of human remains than from those of other animals, and if incineration was needed by the human race for protection against decaying animal matter and the germs of disease, nothing short of the cremation of the whole world would avail. He contended that the emanations from dead bodies, though offensive, were not, as a rule, dangerous. The trouble with those who urged cremation as the only proper disposition of the dead was, that they never took their examples of the evils of earth-burial from their own country. They went to Italy, and Egypt, and Turkey, and to all sorts of places; but they hesitated to meet their opponents on their own soil. After dwelling on the undeniable fact that cremation would often destroy traces of crime and make detection impossible, Dr. Hamilton said: "In this country there is a strong public feeling opposed to even voluntary cremation. The same is true of civilized nations in all parts of the world, and

especially among those calling themselves Christian. This may be only due to sentiment, but no true friend of the human race, Christian or infidel, would wantonly destroy that sentiment. If any one desires to be cremated, there exists no valid reason why he should not be; but I argue that it is totally unnecessary for any sanitary reasons, and therefore that there is no need that cremation should be enforced by legal enactment, or that it should be even urged upon a reluctant public.

DR. AUSTIN FLINT.

This eminent physician and teacher died suddenly at his home in New York, on Saturday last. Of an illustrious medical ancestry, the occupant during the last forty years of professional chairs in no less than six different cities of the union, the author of a standard work on practice which has passed through several editions, the recipient of the highest honors in the profession, his death will be felt throughout the medical world. We defer to a future time a more extended and fitting notice of his fruitful life.

MEDICAL NOTES.

— Mr. Lawson Tait has been elected President of the British Gynæcological Society.

— Apropos of the recent exceptionally cold weather, it is interesting to learn that the coldest weather ever recorded on the globe was that experienced in January, 1885, in the expedition under Dr. Burrage, to the new Siberian Islands, and reported to the St. Petersburgh Academy of Sciences at the annual meeting on January 10th last. The mean temperature of January, 1885, was −52.7° C. (−62.9° F.), and the minimum −68° C. (−90.4° F.).

— A case is recorded in the *British Medical Journal*, (December, 1885, page 1104,) of a female, aged forty years, who was admitted into the Philadelphia Hospital in a delirious typhoid condition. The abdominal cavity was filled with a large tumor, which extended to the ribs. It was globular, movable, tense, and distinctly fluctuating. For five or six weeks, the urine had dribbled away constantly. The author diagnosticated a distended bladder, and introduced a catheter; by this means, during the next twenty-four hours, he drew off 464 ounces of urine. Next day, a partially decomposed four-month's fœtus was passed. For the next three weeks, the patient was unable to pass urine naturally, but the bladder gradually regained its tone, and in three months the patient was cured.

— For engaging in the practice of medicine in China, no license is required, says the *Medical Record*, but the lot of the unsuccessful physician is not one to be envied. The following is the two hundred and ninety-seventh section of the penal code, which deals with these unlucky practitioners: "Whenever an unskilful physician, in administering medicines or using the acupuncture needle, proceeds contrary to the established forms, and thereby causes the death of the patient, the magistrate shall call in other physicians to examine the medicines or the wound. If it appear that the injury done was unintentional, the practitioner shall then be treated according to the statute for accidental homicides, and shall not be allowed any longer to practise medicine. But if he have designedly departed from the established forms, and have practised deceit in his attempts to cure the malady, in order to gain property, then, according to its amount, he shall be treated as a thief; and if death shall ensue from his malpractice, then, for having thus used medicine with intent to kill, he shall be beheaded."

— We are not in the habit of going to the *London Truth* for medical hints, but its quotations are, perhaps, reliable, and it certainly has a lively way of putting things. It says: "According to the *United Service Gazette*, a new use has been discovered for the musical instrument of torture called the bagpipes. Last year a Spanish soldier was brought to the Military Hospital at Havana in a state of catalepsy, and for fifteen months he showed no signs of improving health. At last, the doctors ordered the bagpipes to be played near his bed, whereupon the man promptly recovered consciousness, and was soon able to articulate. The first words were not couched in the form of a blessing; but there may be yet a great future for the bagpipes in medical science. Their music may be strongly recommended to persons suffering from nervous or hysterical disorders, and generally speaking, to maladies imaginaires of every description. Whether the disease or the remedy is the worst, must be left to the judgment of the invalids themselves."

NEW YORK.

— The Council of the University of Buffalo have decided to establish a college of pharmacy in connection with the Medical School, and Prof. R. A. Witthaus has been elected head of the Faculty.

— The seven dogs bitten by the supposed rabid dog which bit the six Newark children about the first of December last, were released from pound March 2d, no symptom of rabies having developed in any one of them during the three months of their confinement.

— At a meeting of the Academy of Medicine held March 4th, Dr. D. B. St. John Roosa read a paper on "Limitations in the Value of Glasses for the Improvement of Vision and the Relief of Disease," the main object of which was to show that the tendency had of late been to attribute altogether too many diseases, both reflex and organic, to troubles of the eye. Afterwards, Dr. Henry G. Piffard exhibited a new electric light, the advantages of which were: a lamp of fair constancy and a portable battery (six cells), at moderate expense. The apparatus was made by the Galvano-Faradic Company, of Fourth Avenue, New York.

— Dr. Ludwig R. Sattler, the veterinary, who was the last of the Newark patients who went to Paris to

be inoculated for rabies by Pasteur, returned on the Eider, which arrived February 28th. He states that the report published in the newspapers that M. Pasteur refused to treat him because he could not produce satisfactory evidence of having been bitten by a rabid dog was false. As soon as he arrived in Paris, he went to the laboratory, where he was courteously received and allowed to inspect the processes of preparing the virus for use in the human subject. He was inoculated nine times in all.

— The fifth annual meeting of the New York Medical Missionary Society was held at the Broadway Tabernacle, March 2d. Dr. C. R. Agnew presiding. Dr. George D. Dowkoutt, Medical Superintendent of the Society, gave an account of its work during the past year, and addresses were made by several medical missionaries, as well as by Dr. Agnew. There are now nine young men in course of training, under the auspices of the Home Institute of the Society, which has for its object the maintenance of students preparing for medical missionary work, and some fifty applicants have been refused for lack of the funds necessary to pay for their education. Mr. Cornelius Vanderbilt has given $600, and his brother George, $300, for the expenses of the current year.

— A striking commentary on the report of State Engineer Gardiner, in regard to the sewerage and general sanitary condition of the new capitol building at Albany, which was recently presented to the State Board of Health, was afforded on March 11th, when a violent explosion in front of the building caused no little excitement among its occupants. It was supposed at first that dynamiters had been at work, but an examination of the premises showed that the detonation and upheaval were due to an explosion of sewer-gas in the large receiving basins below the building; heavy stones three and five inches thick, which covered the basins, being shattered into a thousand pieces and hurled through the air. The accident is said to have been the direct result of the imperfect system of sewerage and ventilation, to which the State Board of Health has called the attention of the Legislature.

— Dr. Charles H. Phelps has been nominated by Governor Hill for the position of Health Officer of the Port of New York, and the appointment is generally considered a most excellent one. Dr. Phelps is a well-known surgeon, who has filled with ability a number of responsible positions, and is at present an attending surgeon to Bellevue and St. Vincent's Hospitals, as well as President of the Medical Board of Bellevue and of the Board of Police Surgeons, of which he has been a member for a considerable time. Although a Democrat in politics, there is little doubt that Dr. Phelps will be confirmed by the State Senate in which there is a Republican majority. The Governor has also appointed one of the Commissioners of Quarantine, Dr. John H. Douglass, well known by his connection with the case of Gen. Grant, the other two commissioners appointed being prominent and highly-respected business men, Messrs. Marshall B. Blake and Charles S. Higgins.

— The State Charities Aid Association have recently had introduced into the Legislature a bill providing for the establishment of municipal lodging-houses, on the plan of the Wayfarers' Lodge opened by the Overseers of the Poor, in coöperation with the Police Department, which has been in successful operation in Boston since 1879. This act authorizes the Commissioners of Charities and Correction to hire or purchase the necessary buildings, subject to the approval of the Board of Estimate and Apportionment. The houses once established, it will be unlawful to shelter any persons but women, children or aged or infirm men in police stations. The lodging-houses will receive all other applicants, subject to proper conditions, and provide them with meals and a night's lodging, in return for which they will be expected to perform a reasonable amount of labor in the morning; and in case any lodger refuses to do this he will be subject to prosecution as a vagrant. Each applicant will also be compelled to take a bath and have his clothes disinfected. It is estimated that four lodging-houses will be required in all; but provision has been made in the bill for the experimental opening of a single one. As there are over two hundred thousand lodgings given in the city's police stations each year, two-thirds of the lodgers being almost constant in their applications, it is believed by its promoters that the adoption of the proposed plan will effect much good in New York, especially in the reduction of the number of professional tramps.

— Dr. S. Oakley Vanderpoel, of New York, died March 12th, at the Arlington Hotel, Washington, where he had stopped for a week on his way South. He came of a distinguished family, and was born February 22, 1824, at Kinderhook, Columbia County, N. Y., where his father, who was also a physician, carried on an extensive practice. He was graduated from the Jefferson Medical College, Philadelphia, in 1845, and in 1847 he went to Europe, where he remained till 1850, when he returned to this country and settled in Albany. He was appointed by Governor King Surgeon-General of the State in 1857, and was appointed again to the same position by Governor Morgan in 1861, when the duties of the office were extremely onerous and exacting. He served in this capacity with distinguished ability throughout the war, winning the public thanks of the Governor and the Legislature, and then once more returned to private practice. In 1860, he was chosen President of the Albany County Medical Society; in 1867, Professor of General Pathology and Clinical Medicine in the Albany Medical College; and in 1870, President of the New York State Medical Society. From 1872 to 1880, he filled the position of Health Officer of the Port of New York in the most admirable manner, during which time he lectured on hygiene at the College of Physicians and Surgeons, New York, and (in 1876), was appointed

to the Chair of Theory and Practice in the Albany Medical College. After his term as Health Officer, he returned to Albany for a year; but in 1881, came back to New York and engaged in private practice. In 1883, he was appointed Professor of Public Hygiene in the Medical Department of the University of the City of New York; and in 1884, received the degree of LL. D. from that institution. Dr. Vanderpoel was for a long time prominent in the directorate of the St. Nicholas Society, at whose gatherings his genial presence was always most highly esteemed. Personally, he was a man of great force of character, and his warm heart and kindly disposition won him hosts of staunch and devoted friends. Of his three sons, two are practising physicians in New York.

Miscellany.

A SECOND FLORENCE NIGHTINGALE.

The great assistance rendered to Senator Hawley in his official work by his late wife has been generally remarked upon since her death, but there was an interesting chapter in her life in connection with hospital service during the late war, which is perhaps not so well known, and which illustrates a strong and remarkable character. We make the following extracts from an obituary notice in the *Hartford Courant*:

In the fall of 1862, she joined her husband, then Colonel Hawley, of the Seventh Regiment, at Beaufort, S. C. From this time to the close of the war, she remained in active service as a hospital visitor. Many a soldier now living will forever bless her memory, and the last hours of many were consoled by her sweet ministrations. She devoted such time as her health would permit to the work at Fernandina, St. Helena, Hilton Head, and finally, in charge of a ward in Armory-square Hospital, in Washington, a position to try the nerve and exhaust the vitality of the strongest nature. Mrs. Hawley reached this hospital the morning after the wounded began to arrive from the battles of the Wilderness. Her ward was one of the largest, containing at one time ninety-seven patients, and to add to its horror, there was no separate operating room. In one day during that terrible April, forty-eight patients died. The hospital, which was designed for 900 patients, was at this time compelled to receive and care for 1400.

Surrounded by such scenes, Mrs. Hawley lived in the hospital in charge of the ward assigned her for four long months — months of the severest labor, taxing her utmost strength, and drawing upon her deepest sympathies. In September her health failed, and she was obliged to relinquish the charge, returning, however, in November, and remaining until March, 1865.

After the capture of Wilmington, N. C., General Hawley was assigned to the command of a department with headquarters at that city. Here Mrs. Hawley joined him, and here she had a new experience of the horrors of war, in the reception of nine thousand Union prisoners from Andersonville and Florence. The city was in a filthy condition, fever broke out, prostrating hundreds, and the deaths were by the score. The chief of the medical staff died; of five professional lady nurses from the North, three sickened and two died; and among the detailed soldier nurses, the fatality was worse than in a battle. Mrs. Hawley exerted herself to the utmost to afford relief. She organized the women who volunteered to help, superintended the making of garments, visited the hospitals, and shunned no danger.

TWO CASES OF NEPHRITIS VARICELLOSA.

Nephritis is well known as a sequela of scarlatina, and occasionally of measles, but it is only within the last year or two that it has been observed to follow varicella, and very few cases have been as yet recorded. These two cases were observed at the Children's Hospital at Buda-Pesth, by Dr. Högyes, and are summarized in the *Edinburgh Medical Journal* from the *Jahrbuch der Kinderheilk*, Band xxiii, Heft 3, 1805. Case I, a boy, two and a half years of age, was admitted to the hospital for eczema of eyelids, on 14th October, 1884. On the 25th, he had a mild attack of varicella, contracted from another child in the hospital. On the 15th November, his face was observed to be puffy, and his urine was found to be scanty, and to contain albumen. He had a severe attack of nephritis, and died in three days. Post-mortem showed parenchymatous nephritis, and œdema of lungs. Case II, a girl of seven years, came into hospital with varicella on 28th October; a moderately severe attack. On the 21st November, she was observed to have face and feet swollen, and the urine was found to contain albumen. She had a short, but sharp attack of nephritis, but recovered, and was well by the 12th of December. She had suffered from no other disease, and the nephritis could only be referred to the varicella. The first symptoms of the kidney disorder appeared in each case from the nineteenth to twenty-first day after the first appearance of the exanthema.

UNPLEASANT EFFECTS FOLLOWING ANTIPYRINE.

Dr. W. Graham reports in the *Canada Lancet*, a case in which very unpleasant results followed the administration of antipyrine. On the 7th of October he was called to Mrs. B., aged forty-five, a patient in the fourth week of typhoid, whom he had been attending, and considered convalescent. Her temperature was 103.6°, pulse 120, respiration 30; fine crepitation throughout the lower portion of both lungs. He thought antipyrine the best selection as an antipyretic, judging that it would produce less depression than either quinine or salicylate of soda. He happened to have with him just one drachm, and divided it into five equal powders of twelve grains each, of which he ordered one every three hours. Next morning early, a messenger was sent with the unwelcome news that the patient was dying. On his arrival, he found her in a state of severe collapse. Cold perspiration stood in drops over her face and parts of her body, cold hands and feet, temperature, 95°; pulse feeble and flickering; impossible to count it. He was, indeed, alarmed, and expected to lose his patient. He immediately gave her ammon. carb. and digitalis, with whiskey at short intervals, and applied artificial heat around the body, and was very much pleased to find that this treatment

counteracted the unpleasant symptoms, and she ultimately recovered. Two or three days afterwards, her daughter drew his attention to a patch of purpuric maculæ about the size of the palm of the hand, on the back, just below the seventh cervical vertebra. This was, no doubt, the characteristic eruption that results from the use of antipyrine, but it was not observed on any other part of the body.

A CASE OF RETRACTION OF THE PENIS.

WE find in the *London Medical Record* (February 15), the following remarkable case which is recorded in the *Vratch*, No. 26, 1885, page 423, by Dr. A. A. Ivanoff, of Büzülük, Samara Government. A strongly built, generally healthy, married peasant, aged twenty-three, came to a local hospital, evidently laboring under some mental trouble, and stated that "something had broked down below" with him. On stripping the patient a string came to light, one end of which encircled the retroglandular sulcus of the penis, while another end was fastened round the lower part of the left thigh, the member being thus kept down in a tightly stretched state. The patient did not allow the author to touch the arrangement, and himself untied the femoral end of the string. On gradual relaxation of the latter, the penis slowly retracted, and ultimately disappeared altogether under the pubic arch, leaving only a navel-like depression. The part could be got back only by traction on the string. According to the patient's narrative, everything had been in due order up to five days previously, when having got up to micturate on a dark night, he was utterly frightened at being unable to find any trace of his penis. Having managed somehow to pass urine, he, after prolonged manipulations, was able at last to get it back, and to retain in the way mentioned. Except slight perineal pain, no other symptoms, and no possible cause whatever for the retraction could be detected. To allay the pain and the patient's distress, bromide of potassium, in ten-grain doses every three hours, was given. On the next day the penis remained unretracted for an hour or more. Six days later, retraction disappeared, and did not return. Dr. Ivanoff has not been able to find any other similar instance in literature.

A MODE OF CONCEALING THE TASTE OF QUININE.

The *Medical and Surgical Reporter* (Feb. 27) mentions editorially, a new method of masking the bitter taste of this drug, which was accidentally discovered by Professor Hugo Engel. He had been in the habit of prescribing in the moist stage of bronchitis, equal parts of muriate of ammonia and powdered extract of glycyrrhiza, and on one occasion, while prescribing this powder, to fulfil a special indication in the case, added four grains of quinine to each forty grains of the powder. He told the patient, who had previously taken the powder alone, of the bitter taste he had to expect, and was not a little surprised when the patient informed him that he detected no such taste whatever. Since then, Dr. Engel has tried the same combination in a number of cases, and also induced some colleagues to make use of it, and all agree that it is the best method yet discovered to conceal the bitter taste of quinine. Children usually like licorice, and as a small dose of muriate of ammonia probably never can do harm when quinine is indicated, we possess now the means of administering quinine to young children without the trouble formerly connected with this remedy. The following combination seems to be the best for the purpose:

℞ Quiniæ sulphatis,		
Ammoniæ muriatis,	ää	gr. j.
Pulv. extracti glycyrrhizæ,		gr. iv.
M.— Ft. pulvis. S.		

In the same proportion, larger doses may be given, but it does not seem to be necessary to take more than ten grains each of powdered extract of licorice-root and muriate of ammonia to ten grains of quinine, so that probably after a certain quantity of quinine, that of licorice need not be increased in the same ratio as has to be the case with smaller doses.

Persons with a sensitive palate, about two minutes after they have taken this compound quinine-powder, have a slightly bitter taste, which, however, soon ceases; besides in children, it is the main point to conceal the taste of the drug at the time they are taking it, so that if greater experience should demonstrate the fact that a few minutes after the dose has been swallowed a bitter taste appears, we still would have gained a valuable addition to our corrigents.

The muriate of ammonia and the powdered extract of licorice-root must be finely powdered and intimately mixed, and kept in a dry and warm place. There should also be first added only a little water, the same as we do in the case of flour when we wish to make a paste, otherwise the licorice swims in the form of little balls in the water, and is then difficult to dissolve. As soon as the whole — the muriate of ammonia, the powdered extract of licorice-root, the quinine, and the water — forms a homogeneous mass of syrup-like consistence, the remainder of the water, about half a tumblerful for twenty grains of the muriate of ammonia — otherwise the latter may cause griping — may be added.

INTRAVENOUS INJECTION OF SALINE SOLUTION.

DR. DMITRY O. OTT, of St. Petersburgh, has written an *Inaugural Dissertation*, which embodies the results of his extensive and prolonged experiments carried out at the respective laboratories of Professor Kronecker, Cohnheim, F. Hofmann, Kries, and J. P. Tarkhanoff. It consists of three parts, the first of which treats the question of intravenous injection of common salt; the second, that of injection of blood-serum, and defibrinated and whole blood; and the third, that of auto-transfusion (from the left carotid into the left jugular vein of the same animal). The experiments will be of interest to our readers in view of the interesting case recently recorded in the JOURNAL, in which salt solution was injected with happy effect. We make room for Dr. Ott's conclusions which are thus given in the *London Medical Record* (February 15):

From all the experiments with blood, the author draws the following general conclusion. On transfusing blood — defibrinated or whole, taken from the same animal, or from another — we cannot possibly expect that it may be inoculated to the anæmiated receiver.

On the contrary, we must regard the blood transfused as a dead body, destined for elimination out of the system in course of time. "The blood transfused dies under the influence of contact with the dead tube of the transfusion-apparatus. It is possible, however, that in future there will be invented a technical contrivance for the transfusion, under which the blood transfused will preserve its full vitality — such as the use of excised blood-vessels, instead of India-rubber or glass tubes, etc." It is not difficult to foresee the practical general corollary drawn by Dr. Ott from all his interesting experiments. "The danger from hæmorrhage," the author says, "when the loss does not exceed two-thirds of the whole mass of the animal's blood, consists in establishing a disproportion between the capacity of the bloodvessels and their contents. This danger may be obviated by introducing a certain amount of fluid, and that with pretty equal success, whether the fluid contain albumen and blood corpuscles or not. It is necessary only that it possess indifferent properties, and that it be harmless to the system. The regeneration of the anæmiated organism, and the return of the latter to its original normal condition, take place at the expense of the organism itself, since an organic fluid or morphological elements, introduced into the vessels by means of transfusion, undergo destruction, and are eliminated out of the system. However, in consequence of the fact that the destruction and elimination of all other fluids proceed more slowly than when a saline solution is used, the regeneration of the organism under the injection of common salt is attained more rapidly and more completely than under the transfusion of albuminous fluids, especially under that of blood." Accordingly, the author emphatically recommends the treatment of acute anæmia by intravenous injection of an 0.6 per cent. solution of common salt. It is only natural that he discards also injection of egg-albumen, milk, peptones, etc.

A PROPOSED INTERNATIONAL CONGRESS OF HYDROLOGY AND CLIMATOLOGY.

THE Society of Letters, Arts and Sciences of Biarritz, France, has issued invitations to a proposed International Congress of Hydrology and Climatology to be held at Biarritz during the first week in October, 1886, under the presidency of the Minister of Commerce, and assisted by the Medical Hydrological Society of Paris and the Meteorological Society of France.

The aim of this Congress is to bring together in a country rich in thermal and sanitary stations, the learned men of all countries, who would study in common the questions bearing on hydrology and climatology. All societies and scientific associations, all learned men in France and abroad, are invited to take part in this meeting.

REPORTED MORTALITY FOR THE WEEK ENDING MARCH 6, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Scarlet Fever.	Diphtheria and Croup.	Whooping Cough.
New York	1,340,114	747	295	18.07	14.44	1.34	8.19	3.64
Philadelphia	927,995	400	128	11.25	—	2.00	4.75	.25
Brooklyn	644,526	337	131	17.40	14.50	2.90	10.73	.87
Chicago	632,100	—	—	—	—	—	—	—
Boston	390,406	167	54	8.40	22.20	1.20	3.60	.60
Baltimore	408,520	140	51	9.94	19.88	—	3.55	.71
St. Louis	400,000	—	—	—	—	—	—	—
Cincinnati	272,400	118	37	13.60	19.55	.85	2.55	—
New Orleans	234,000	—	—	—	—	—	—	—
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	88	27	9.09	19.31	1.14	3.42	—
Pittsburgh	180,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	—	—	—	—	—	—	—
New Haven	62,882	—	—	—	—	—	—	—
Nashville	54,400	30	11	6.66	20.00	6.66	—	—
Charleston	52,286	30	13	10.00	20.00	—	3.33	6.66
Worcester	68,383	23	9	—	17.34	—	—	—
Lowell	64,051	34	15	20.30	11.60	—	14.50	2.90
Cambridge	59,660	18	1	11.11	16.66	—	—	—
Fall River	56,863	18	7	11.11	22.22	11.11	—	—
Lynn	45,861	20	4	—	5.00	—	—	—
Lawrence	38,825	10	3	—	30.00	—	—	—
Springfield	37,577	13	4	15.38	7.69	—	—	—
New Bedford	33,393	15	4	—	26.66	—	—	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	10	0	—	40.00	—	—	—
Holyoke	27,894	11	6	45.45	18.18	—	27.27	—
Chelsea	25,709	11	4	18.18	18.18	—	—	9.09
Taunton	23,674	9	0	—	—	—	—	—
Haverhill	21,795	14	5	28.56	28.56	—	14.28	—
Gloucester	21,713	6	1	16.66	—	16.66	—	—
Brockton	20,783	5	2	20.00	—	20.00	—	—
Newton	19,759	3	0	—	33.33	—	—	—
Malden	16,407	4	1	25.00	—	—	25.00	—
Fitchburg	15,375	2	0	—	—	—	—	—
Waltham	14,609	3	1	—	33.33	—	—	—
Newburyport	13,716	3	0	—	33.33	—	—	—
Northampton	12,896	4	0	—	50.00	—	—	—
92 Massachusetts Towns	—	56	7	36.00	9.00	1.80	1.80	—

Deaths reported 2,349: under five years of age 821; principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 329, consumption 323, lung diseases 332, diphtheria and croup 145, scarlet fever 44, whooping-cough 38, typhoid fever 26, diarrhœal diseases 21, malarial fever 20, cerebro-spinal meningitis 14, erysipelas eight, measles six, puerperal fever four, typhus fever three. From typhoid fever, Philadelphia 15, New York five, Cincinnati three, Boston, Lowell and Cambridge one each. From diarrhœal diseases, New York nine, Cincinnati four, Brooklyn and Boston three each, District of Columbia and Chelsea one each. From cerebro-spinal meningitis, New York five, Holyoke three, Nashville two, Boston, Cincinnati, Springfield and Haverhill one each. From erysipelas, New York three, Brooklyn two, Baltimore, Cincinnati and Holyoke one each. From measles, Baltimore five, New York one. From puerperal fever, District of Columbia three, Springfield one. From typhus fever, New York three.

In 114 cities and towns of Massachusetts, with a population of 1,376,736 (population of the State 1,941,465), the total death-rate for the week was 17.35 against 14.83 and 15.96 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending February 20th the death-rate was 24.4. Deaths reported 4,253: infants under one year of age 999; acute diseases of the respiratory organs (London) 639, whooping-cough 197, measles 79, diarrhœa 43, diphtheria 39, scarlet fever 31, fever 33, small-pox (Liverpool) three.

The death-rates ranged from 15.3 in Birkenhead to 39.1 in Blackburn; Birmingham 25.2; Brighton 19.3; Bristol 18.4; Hull 18.8; Leeds 23.51 Leicester 16.4; Liverpool 26.0; London 25.6; Manchester 28.4; Nottingham 24.9; Sheffield 18.1; Sunderland 30.7.

In Edinburgh 17.4; Glasgow 24.9; Dublin 31.8.

For the week ending February 20th in the Swiss towns, there were 38 deaths from consumption, lung diseases 30, diarrhœal diseases 11, whooping-cough seven, typhoid fever six, small-pox four, diphtheria and croup four, measles two, erysipelas one.

The death-rates were: at Zurich 21.0; Geneva 19.2; Basle 17.0; Berne 38.5.

The meteorological record for week ending March 6, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps. —

Week ending Saturday, Mar. 6, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday, . . 28	29.712	14.5	23.2	7.4	52.0	44.0	46.6	47.3	N.W.	N.W.	N.W.	31	38	29	C.	C.	C.	—	—
Monday, . . 1	29.694	4.4	11.9	-1.2	48.0	46.0	88.0	60.7	N.W.	N.W.	N.W.	20	35	29	C.	C.	N.	—	—
Tuesday, . . 2	29.445	14.4	20.3	-0.2	63.0	49.0	65.0	59.0	N.W.	N.W.	N.W.	32	28	22	O.	C.	O.	—	—
Wednes., . 3	29.699	24.9	31.8	15.3	59.0	52.0	73.0	61.3	N.W.	N.W.	N.W.	22	20	11	O.	F.	O.	—	—
Thursday, . 4	29.834	32.5	41.1	22.0	48.0	42.0	72.0	54.0	N.W.	N.W.	N.W.	20	18	17	C.	C.	C.	—	—
Friday, . . . 5	29.803	30.7	38.7	25.8	62.0	48.0	64.0	58.0	N.W.	N.W.	N.W.	12	13	13	C.	O.	C.	—	—
Saturday, . 6	29.816	27.5	39.0	24.3	67.0	41.0	66.0	58.0	N.W.	N.W.	N.W.	12	23	18	C.	C.	C.	7.0	0.1
Mean, the Week.	22.572	21.3	29.4	12.3				56.9											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; K., sleeting; N., snow.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING MARCH 13, 1886.

WOODS, GEORGE W., surgeon. Ordered to Navy Yard, Mare Island, to relieve Surgeon W. K. Scofield, April 1.

SCOFIELD, W. K., surgeon. Detached from Navy Yard, Mare Island, and wait orders.

TO THE DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION.

The rates given to the Delegates to the American Medical Association meeting, May 4, in St. Louis, have been fixed by the different Railroad Committees of the country, at one and one-third fares for the round trip. Delegates must pay full fare coming, and will receive on application, from the agent at starting point, a certificate, which when signed by the Chairman of the Local Committee of Arrangements will entitle them to the reduced return rate.

No reduced return ticket will be issued unless the purchaser can show a certificate issued by the Agent from whom he purchased the going ticket, and signed by the Chairman of the Committee of Arrangements. LE GRAND ATWOOD,

Chairman Committee of Arrangements.

SOCIETY NOTICE.

NEW YORK STATE MEDICAL ASSOCIATION, FIFTH DISTRICT BRANCH. — The third special meeting of the Fifth District Branch will be held in the Common Council Chamber, Yonkers, at 2 P.M., on Tuesday, March 23, 1886. The following scientific papers will be read: "The Physician and the Pharmacist — their Relative Duties," by J. P. Garrish, M.D. "A Case of Meningeal Extravasation with Curious Localization of Nerve-Symptoms," by A. L. Carroll, M.D. "Sacculation and Perforation of the Bladder as Consequences of Chronic Retention of Urine," by J. W. S. Gouley, M.D. J. G. PORTEOUS, M.D., *President.*

E. H. SQUIBB, M.D., *Secretary.*

DEATHS.

Died at Wayland, Mass., March 9, 1886, John McLean Hayward, M.D., M.M.S.S., aged forty-nine years.

Died in New York City, March 13, 1886, Austin Flint, M.D., aged seventy-four years. An honorary member of Massachusetts Medical Society.

BOOKS AND PAMPHLETS RECEIVED.

Ague, or Intermittent Fever. By M. D. O'Connell, M.D., M. Ch., L.M., Surgeon-Major Medical Staff. Calcutta, 1885.

Progress of Electrolysis in Surgery. By Robert Newman, M.D. Surgeon to N. W. Dispensary, New York. Read at the First Annual Meeting of the Fifth District Branch of the New York State Medical Association, Oct. 13, 1885. (Reprint from December number of Gaillard's Medical Journal, 1885.)

Report of the Commissioner of Education for the Year 1883-84. Washington Government Printing Office. 1885.

Illustrations of Unconscious Memory in Disease including a Theory of Alterations. By Charles Creighton, M.D. New York: J. H. Vail & Co. 1886.

Circulars of Information of the Bureau of Education. No. 4, 1885. Education in Japan. Washington Government Printing Office, 1885.

Hospital Sisters and Their Duties. By Eva C. E. Lückes, Matron to the London Hospital. Philadelphia: P. Blakiston Son & Co. 1886.

First Annual Report of the Pathological Department. By Francis X. Dercum, M.D., Ida V. Rul, M.D., Pathologists. (Reprinted from the Sixth Annual Report of the State Hospital for the Insane. S. E. District of Pennsylvania at Morristown, Pa., 1885.)

On the Causation and Nature of Hypertrophy of the Prostate. By Reginald Harrison, F.R.C.S., Surgeon to the Liverpool Royal Infirmary, etc.

Eighth Annual Report of the Presbyterian Eye, Ear and Throat Charity Hospital. Baltimore. 1885.

Annual Reports of the President and Treasurer of Harvard College 1884-85. Cambridge, Mass. Published by the University. 1886.

The Year Book of Treatment for 1885. A Critical Review for Practitioners of Medicine and Surgery. Philadelphia: Lea Brothers & Co. 1886.

Reports of the Trustees and Superintendent of the Butler Hospital for the Insane. Presented to the Corporation at their Annual Meeting, Jan. 27, 1886. Providence, 1886.

Drainage for Health, or Easy Lessons in Sanitary Science. By Joseph Wilson, M.D. Second Edition with Important Additions. Philadelphia: P. Blakiston, Son & Co. 1886.

Original Articles.

PNEUMONIA AND ITS TREATMENT.[1]

BY C. W. STOCKMAN, M.D., ANNISQUAM.

I HAVE selected for a subject to bring before you for discussion to-night, pneumonia, not with the hope or expectation of adding anything new to what has been written, but because a great change has occurred within the last two or three decades, in the views held by a majority of the profession, concerning its pathology, and consequently its treatment. The modern treatment of pneumonia, based upon expectancy, support and stimulation, appears to me to rest upon a tripod. First, the alleged discovery that the disease, instead of being the simple inflammation of the lung, attended by fever, that our fathers supposed it to be, is really a constitutional and as some would have it, an infectious and contagious disease, with a local manifestation in the lung; secondly, the assertion that the human constitution has changed within the last thirty or forty years, and will not bear depletion as it would once, and thirdly, the statement that venesection cannot cut short, or favorably modify the disease. Concerning the first of these propositions, although most of our modern text-books and teachers tell us that pneumonia is a constitutional disease, I have as yet seen only the assertion, without proof or reason being offered, and I am far from being convinced that the statement is correct. As regards the second, although I do not deny that some change may have taken place in our physical being, in the last few decades, still I am satisfied in my own mind that many of our patients might not only bear venesection without injury, but in some cases very greatly to their advantage. As regards the third proposition, I feel convinced, not only by the statements of others, but by my own limited experience, that venesection, properly applied as to time and amount, is capable not only of aborting certain cases of pneumonia and other inflammatory diseases, but that it will in some instances save the life of the patient, when nothing else will. The opponents of venesection are to be found almost wholly among those who have commenced practice in the last twenty, or at the most thirty years, and what proportion of the number, I ask, have ever bled a patient for any reason? What proportion have ever seen a person bled, or have any personal knowledge of the effect produced by venesection. They tell us that they do not bleed for fear of so weakening the patient that he will not be able to stand the exhaustion of the last stage, the stage of purulent infiltration. What proportion of the fifty thousand physicians, more or less, practising in the United States to-day, have ever once given this powerful remedy a trial to ascertain for themselves if it will so weaken the patient; if it will not rather, in many cases, cut short, or so modify the disease that it will never reach the dreaded third stage? Although there are at present many different methods of treating pneumonia, a majority perhaps of the modern school aim to reduce the pulse by veratum viride or aconite, the heat of the body by large doses of quinine, and to maintain the strength of the patient by the early, continuous, and even copious use of beef tea, milk, brandy or whiskey, and whatever else of the most nourishing food the patient can be induced to take, and all this is done in the hope that the patient will be able to bear up until all the stages have been gone through.

Says Flint in his "Clinical Medicine," "The taking of solid food should be encouraged and it should be prepared with a view to tempt the appetite; for the question is, what can the patient be induced to eat, rather than what articles of diet are allowable." Now what are the different stages, or in other words, what is this disease? Ziemssen and other foreign authors give the same description that we find in our own text books. The works upon practice for the last fifty years all give the same account of its invasion, progress and termination. First stage, congestion or inflammatory engorgement. But what is inflammatory engorgement? What is the condition of the lungs? Juergensen says: "The lungs in that stage are of a dark-red color, heavy, firm, and retain the depression caused by the pressure of the finger, showing that they contain little, or no air, but fluid; on section, the substance is found to be dense, the result of swelling of the tissue, and infiltration with a bloody serous fluid. Next comes the second stage, hepatization, marked by a very adhesive, viscous, reddish-brown, secreted fluid. This second stage is the one which is very generally present when the physician is first called, marked by a viscous, bloody, and rust-colored expectoration. Juergensen thus describes it: "The lung is now, internally and externally, of a dark, brownish-red color, solid, but easily torn; it no longer crepitates: on being cut, there usually exudes — only on pressure — a brownish-red, opaque, bloody, serous fluid. This condition, known as red hepatization, soon changes into the third stage proper, that of purulent infiltration. The cut surface is now of a straw-yellow color, and from it exudes in large quantity, a very viscid, purulent fluid, of a faint odor. It is the exhaustion of this purulent stage that the physicians who follow what they call the supporting plan, and who oppose venesection, dread.

They believe that the disease must go through its course of three stages, and therefore, instead of attempting to arrest its course, to cut it short, they limit their efforts to feeding, stimulating, watching and waiting; they do nothing to prevent the congestion which of course occupied but a small part of the lung for the first few hours —from being extended to other portions of it, or if they have not seen the case until the inflammatory engorgement has already occupied a great part, or all of the lung, do nothing to arrest its passage into the third stage — a stage from which the patient rarely recovers.

Professor Loomis in Pepper's valuable "System of Medicine" uses the following decided language: "If it is remembered in the treatment of pneumonia that the pneumonic lung no more requires treatment than do the intestinal ulcers in typhoid fever, and that we are to be governed by the patient's general condition, and not by the physical changes in the lung, as indicated by the physical signs, it is evident that all those measures which have been employed for the arrest of a local inflammatory process, have no place in our therapeutics." This *may* be the correct view. It is not for me to attempt to deny a statement made by a physician of Professor Loomis' great knowledge and experience, nevertheless, were I the subject of pneumonia, I should much prefer that measures should be taken to *attempt*, at least, to limit and control the

[1] Read before the Essex South District Medical Society.

acute inflammation going on in the lung. He continues: "It is for this reason that venesection, which at one time had its stronghold in the treatment of pneumonia has now fallen into disuse. Now the principle upon which this theory is based appears to be that the disease, like small-pox, will run a prescribed course, always the same in point of time, differing only in degrees of mildness or severity, and it is the physician's duty not to attempt to arrest its course, but to keep up the strength so as to enable the patient to bear the suppuration going on in the whole of one lung."

Loomis defines croupous pneumonia as an acute general disease, with a characteristic local pulmonary lesion. "Anatomically considered," he says, "it is an acute inflammation of the vesicular structure of the lungs, resulting in infiltration of the alveoli with inflammatory products, which renders them impervious to air."

Dr. Hiram Corson, of Pennsylvania, from whose articles upon this subject I have freely quoted, says: "I regard pneumonia as simply an inflammation of the lung tissue, and I don't worry myself to distinguish between catarrhal pneumonia and croupous pneumonia, for it makes no difference, so far as treatment is concerned, which it is; and because, too, neither myself nor any one else can tell which it is during that time when treatment is so indispensable."

Juergensen says: "It will be found very difficult and perhaps impossible to draw the distinction between a case of catarrhal and one of croupous pneumonia, if one does not see the case until consolidation is complete." When is consolidation complete? Why, in the first stage. He says of the lungs then, in the first stage: "They are of a dark-red color, heavy, firm, and contain little or no air."

Juergensen thus defines the disease; "Croupous pneumonia, anatomically considered, is an acute inflammation of the alveoli and bronchioles, in which a fibrinous exudation is poured out on the free surface of the mucous membrane and there coagulates." Says Dr. Corson, after a minute description of pneumonia "I am almost ashamed to have taken up so much space with a description of this disease, which, after all, is simply *an inflammation of the substance of the lung*," and I would ask, is there anything in this description or in any other description of pneumonia, which we meet with, to lead one to look upon it as anything more or less than an inflammation of the substance of the lung?

Now, how ought the subject of such an inflammation to be treated? Professor Loomis says: "A summary of the arguments against venesection seems to be conclusive." He tells us that indiscriminate bleeding immensely increases the mortality of the disease, and that it is especially fatal in old people and in young children, in patients of exhausted constitutions, and in those suffering from chronic diseases, and particularly from Bright's disease. No doubt, but can Professor Loomis find a physician at the present time, who advocates indiscriminate bleeding, or who would bleed a patient under the circumstances he enumerates? He further says, that it is absolutely unnecessary in the majority of cases of young adults, and also young children. I am not disposed to differ much with this statement, but when he says that in the majority of cases, it has no influence whatever, either in cutting short the disease, in lessening its duration, or in diminishing the pyrexia, though occasionally, these results *appear* to follow from its use when practised early; I should give more weight to the assertion if I could know that Professor Loomis has given venesection a fair and impartial trial. Although he further states that in the majority of cases it hinders the critical fall of temperature, and delays convalescence, and that recovery is equally, if not more rapid, when it is not practised, still he admits that in a few cases, a moderate venesection may be necessary in the early stages, to avert immediate danger of death from asphyxia.

Now, if Professor Loomis's views are correct regarding venesection, then, some of the most able and experienced physicians of the present day, who have had abundant opportunities of testing and comparing both methods of treatment, have deceived themselves in their estimate of the safety and value of this powerful remedial agent. Among the physicians of our own time, who advocate and practise bleeding, may be mentioned Drs. John Atlee, Traill Green, Austin Flint, H. I. Bowditch, J. F. Meigs, Alonzo Clark, Fordyce Barker, W. Pepper, Henry Hartshorne, and the late Professors S. D. Gross and George B. Wood; while in Great Britain, may be mentioned the late Professors Alison, Watson, Christison, Copeland, Laurence, Chambers, Parkes, C. West, Gairdner, Symonds, F. Winslow, Aitken, Markham, Handfield Jones, Dyce, of Aberdeen, Sutton, George Johnson, B. W. Richardson, and others. These are men whose opinions are entitled to great consideration, and be it remembered that, unlike most of its opponents, they have fully tested this measure, and know whereof they affirm.

Professor Hartshorne says, in relation to the treatment of pneumonia: "I am convinced by experience that prompt and moderate antiphogistic treatment may greatly lessen the danger of pneumonia, if not shorten its duration. Probably nine cases in ten would recover without the abstraction of blood; the tenth might die for want of it." The opponents of blood-letting assert that more cases of pneumonia recover under the present system of treatment. Professor Hartshorne says: "I believe that the mortality of pneumonia has increased in Philadelphia, and elsewhere, since blood-letting has been so generally abandoned." Professor Gross, and most, if not all, of those whose names I have mentioned, have expressed the same opinion. In the same connection, Hartshorne further says: "The late Dr. L. P. Gebhard, of Philadelphia, informed me that in a large practice of more than half a century, he had never lost a case of *simple* pneumonia; his treatment being (according to cases), 'moderately antiphogistic,'" as above described. Those who object to venesection in *all* cases of pneumonia, do so, almost invariably, on theoretical grounds, *without having tried it.* Its occasional use is justified with almost equal unanimity by those who have had experience with it. This was well brought out in a discussion of the subject at Richmond, Va., in 1881, the "net result" of which was thus expressed by Dr. Martin, of Boston: "I trust that it may go out to the world, that the American Medical Association sanctions the occasional use of the lancet, at least."

But let us return to Professor Loomis, who is one of the latest exponents of the modern treatment of pneumonia. He continues: "A careful study of the pathology of pneumonia, not only leads one to the conviction that venesection must do harm, but it strongly contraindicates the employment of all those remedial agents which have been used to arrest a simple pulmo-

nary inflammation." Hence, he condemns tartar emetic, veratrum viride, aconite, and all other cardiac sedatives; also calomel and antimony. Of expectorants, he says: "They have no place in the treatment of pneumonia." Counter irritation by blisters or other irritants, he condemns as of doubtful utility, though he admits that occasionally, blisters may be applied during the *third* stage, to hasten the process of resolution, and promote the absorption of plastic exudation. Carbonate of ammonia he mentions but to condemn, and digitalis, he thinks, does more harm than good; camphor and musk he pronounces inferior to alcohol, but advises champagne as a diffusible stimulant. Having thus condemned almost *in toto* the method of treatment heretofore in use, let us see what Professor Loomis recommends to take its place. He has given us the key-note to his system of treatment in the following sentence: "In all severe types of croupous pneumonia, there are two prominent sources of danger, heart insufficiency and high temperature." There are consequently, two prominent indications for treatment, namely, to sustain the heart, and reduce temperature. The essential part of the treatment itself is comprised in three words: food, stimulants, and quinine, to which he adds the administration of opium during the first four days, and the necessity of complete rest.

Those of the profession, and I believe there are many still living, who have witnessed the great and immediate relief to the pain and difficult breathing by free blood-letting at the onset, or in some cases, by the use of wet-cups only; those who have seen more than one case of pneumonia cut short, aborted in its first stage by a timely venesection, those who have watched the cough become looser and less in frequency under the exhibition of small and repeated doses of ipecac, or Dover's powder; those who, later in the disease, have noted the expectoration become freer and easier under the administration of ammonium carbonate, would scarcely be satisfied with the above line of treatment, or feel that they were doing justice to their patients.

You will ask, perhaps, what treatment I would advocate in this disease, for I do not always treat the patient as I would. In some cases, he will absolutely refuse to be bled, when his physician advises it. Again, in some cases, the patient, or his friends, will yield their consent so reluctantly, if at all; they will be so fearful of the measure, that I feel confident that if venesection is practised, and the patient ultimately dies, his death will be attributed solely to the loss of blood. But I firmly believe that in a great majority of cases, if we see and recognize the disease in its first stage — the stage of congestion — we can, and ought to arrest it. At this time, the congestion is hourly spreading further and further through the lung, and advancing to the stage of red hepatization, and I believe that prompt venesection, and that alone, will cut short the disease in many cases; nor have I, in a great majority of cases, the great fear of after-prostration, and heart failure and insufficiency, that so disturbs Professor Loomis, Dr. Reynolds, and others. In many cases, at this stage, the pulse is full, hard, and firm, and in some cases, at least, where it has lost in some degree, its force and hardness, I believe the weakness to be more apparent than real, the immediate and direct effect of a severe inflammatory disease upon a vital organ; and as the result of prompt blood-letting, such a pulse will often acquire more volume and power. It is a well-known fact that men, strong, robust, and apparently healthy, will, in two or three days after the commencement of an attack of acute pneumonia, pleurisy, or peritonitis, exhibit indications of decided weakness, depression, or rather oppression, and debility. What has dissipated their strength so suddenly? The disease has not continued long enough to cause exhaustion, and, if we can arrest it at this point, the patient will, in a few days, be as strong as before; but if we let this disease go on unchecked for a week or ten days; if we let it spread over and cripple the greater part, or the whole of one lung; if, in spite of the anorexia and the fact that the patient turns from food with loathing, we assiduously ply him with nourishment, which, in many cases, he cannot digest or assimilate; if we give him stimulants early and often, notwithstanding the fact that the greater part of one lung is engorged with blood, and the patient is the subject of an acute inflammation, with high fever, *then* I think we shall have just cause to fear exhaustion and heart-failure.

To again quote Dr. Hartshorne: "Few if any pathologists will hesitate to admit that a difference, often momentous, exists between the *exhaustion* of a system weakened by the continuance for some time of severe disease, and that *oppressive* debility with which the most robust person may be temporarily affected under the influence of an acute malady such as pneumonia, meningitis, or croup." Again he says: "The mortality of pneumonia in Philadelphia has for some time certainly increased, not in the hospitals, where the average character of the patients has always made them unfavorable subjects for depletion, but in private practice. It is not too bold an assertion, indeed, for one, who without partisanship, maintains his conviction of the occasional importance of venesection and local depletion as remedies, that while uncomplicated pneumonia, under moderate depletory treatment, was, thirty years ago, rarely fatal outside of hospitals, and not frequently so within them, the indiscriminately stimulating method, now often applied to all classes of cases, has increased very considerably the fatality of this and other inflammatory diseases, in private practice." So much for the opinion of Dr. Hartshorne, one of the most learned and accomplished physicians in Philadelphia, and I may safely add, in the whole country.

And now I want to insert a short quotation from Dr. Reynolds, the author of Reynolds's System of Medicine, which should have appeared earlier: "If the general condition be one of weakness, it matters not that the brain, the heart, or the lungs may be in a state of so-called inflammation; *the weakness is the one thing that demands immediate treatment, and to neglect its treatment* is to run the risk of sacrificing the patient to a theory of a compound state, even now but imperfectly understood." It appears to me that such teaching as this, by a man in the position Dr. Reynolds occupies, is calculated to do great harm, by misleading the young practitioner, who has not had the experience to enable him to distinguish between the *apparent* weakness so invariably present in pneumonia, and the real weakness of exhaustion from prolonged disease.

But to return to the subject of treatment. I desire to again quote Dr. Corson, who tells us in one of his articles that he has bled hundreds of patients, of all ages, and has never seen any of the injurious effects, either immediate or remote, which are so dreaded by many of the physicians of our time, nor has he ever

had cause to regret using the lancet. He says: "To me it is simply an inflammation, and I would use rapidly, as early as possible, the means which, in the practice of half a century, I have found safe and most efficient in allaying inflammation. Well, here is my patient. He had a chill hours ago; he had some pain in his side, some cough, and he feels very weak; his face is flushed, he is hot and thirsty, his pulse over a hundred and the thermometer rises to 103°; he breathes scarcely at all through the most of one lung; there is a little blood, and viscous fluid, slightly rust-colored, in the basin by the bedside; he knows how he got sick; he 'was down in the iron ore shaft all yesterday at work, came up in the evening to come home, and being in a perspiration, soon, in facing the wind, cooled off too suddenly.' I propose to bleed him, but he objects on account of his great weakness. I tie up his arm, and bleed him twenty ounces, or perhaps he feels faint by the loss of less than that. He expresses himself as being relieved somewhat of his oppression, he can lie more comfortably, he feels relieved of the fulness in the chest, but still he has a little pain in the side, or in the breast, just above the nipple. I order him one-quarter grain of sulphate of morphia; direct that a towel be wrung out of cold water, ice-water, if convenient, be applied over the affected part, to be changed frequently, or instead, a bladder of ice and water. Then ordering a mixture which contains some spirits of nitre, with about the third of a grain of morphia to a teaspoonful every two or three hours, I leave him with an express direction not to worry him by any offer of food. Next day, or even the same day, perhaps, if I find that he is not entirely relieved of the pain, and is still expectorating viscid sputa, I bleed him again freely, and if need be, cup him, and after that he is generally safe. Some one will say, 'that may do very well for your strong, iron-ore diggers, but it would prove fatal to our delicate patients.' Perhaps so, but in my experience, I have found that the weak and frail need to have the same means used to allay a toothache, or a sciatica, a pleurisy or a rheumatism, as the robust. They bear the remedies to cure an ague as well, and need them as greatly as the strongest. I have often bled the infant strangling with croup, with immediate relief; weak women with pleurisy or pneumonia, old men, and aged, very aged women, to relieve affections of the brain, or avert a paralysis."

This is the method of treatment which Dr. Corson has practised for some fifty years, and I believe it to be much nearer right than the practice now so generally adopted.

In conclusion, I would say that I would by no means advocate or practise venesection simply because a patient had pneumonia, pleurisy, peritonitis, or meningitis, but I would use it in those cases only in which I considered it safe, and better adapted than any other measure for the recovery of the patient. Its use requires experience, judgment, and discrimination, but I do believe that the weakest of our patients with primary pneumonia will better bear moderate depletion, than the most robust will bear assiduous feeding and stimulation.

After venesection, I would give to such of the more robust patients as I thought required it, small doses of tartar emetic, carefully watching its effects, but those who required it would be few. In *some* of the less robust cases, I would give small doses of ipecac or Dover's powder, and in all I would, until infiltration became complete, if the case arrived at that stage, administer opium in sufficient doses to tranquilize the nervous system, and procure sleep.

Milk I would give after the first day or two, if the patient did not object, and before that if he requested it, and more nourishing food as soon as he asked for it, but if I found indications of exhaustion coming on, and had reason to believe that he could digest and assimilate food, I should urge him to try its effect before that. If the temperature was excessive, and was not reduced by venesection, I should try to reduce it by cold compresses, or quinia, or both, and I would give my patient stimulants as soon as I felt satisfied that real exhaustion was approaching, with the first indications of failure of the heart, but I would not commence the early use of stimulants to prevent the exhaustion that *might* occur later in the case.

I will not mention other details; they are of less importance, and about which there is less diversity of opinion. In the interest of our patients I sincerely hope that this paper may be the means of inducing some one or more of my brother practitioners to investigate and test for themselves this powerful and too much neglected remedy, and if suitable cases are selected and the remedy used according to correct principles, I feel certain that they will learn to highly value the lancet, and to rely upon it in many cases of inflammatory disease.[2]

THE STAINING OF THE BACILLUS OF TUBERCLE.

BY E. W. CUSHING, M.D.

YOUR secretary, gentlemen, has requested me to supplement my last paper before this section, in which I went over the proofs of the infectious nature of tuberculosis, by a practical demonstration of the method of staining suspected sputa for microscopic examination, with reference to bacilli.

I have accepted his invitation, at some risk of wearying you, and perhaps of being considered a bacteriomaniac, since I realize how different it is to read of a practical process, from what it is to see it done. I have still in my note-book copies of descriptions of staining for tubercle bacilli, given in 1883 and 1884, by Ehrlich, Fraenkel, Ernst, and others; but it all seemed far-off, and made no deep impression on me.

I am sure it would have aroused more interest in me, for this important matter, if I had seen it done. It is curious how mythical and difficult strange chemicals seem, until one has handled them; methyl-violet seems transcendental, and vesuvin portentous, even dangerous. But when handled and used they are as commonplace as hectograph ink, or easter-egg stains.

There are many ways in which tubercle bacilli may be stained, and several in which they may be so stained as to be differentiated from all other bacilli. Some methods are easy and simple, others more complicated. In this, as in many other things, however, the easiest way is not always the best way, for it is not now a question of showing their presence when they are abundant, that is easy enough in any way: the diffi-

[2] The writer also desires to express his obligation to the article by Joseph Stubbs, M.D., entitled "Pneumonia treated by Venesection," printed in the *Philadelphia Medical and Surgical Reporter*, July 8, 1882, No. 2 of volume 47.

culty is in finding them when very few and far between, or in feeling certain that they are *absent* in a suspicious case. For this we must use the surest method, one well proved and most likely to show *all* the bacilli present.

The orthodox method for rapid staining which is usually sufficient, and which I described in my last paper, is that with aniline-oil water, methyl-violet (or fuchsin) and nitric acid, followed by vesuvin (or methylene-blue), and of this I will show you all the steps, afterwards showing another way of making a permanent test solution of fuchsin, to be used with methylene-blue as a contrast.

The only objection to the first method is that the solution is not permanent, it does not keep well. Koch says that it will keep about ten days, in a well-stoppered bottle, probably meaning in a laboratory where it is in daily and frequent use; I have tried keeping a solution in a dark bottle, excluding the light, and found it to keep very well for over a month.

Now first as to the materials. Aniline oil is a brown liquid which when fresh is colorless, but seems to be just as good when brown. It is a product of the destructive distillation of coal, a by-product of gas manufacture, or is made on a large scale by the action of reducing agents on nitrobenzol. The formula of aniline oil is $C_6 H_7 N$, and it may be considered as a phenyl ammonia ($C_6 H_5$. H, H) N., and like ammonia it forms salts with various acids.

As it was observed that bacteria took aniline dyes better when in alkaline solutions, and as in fact Koch first stained the tubercle bacilli with a solution of methylene-blue containing caustic potash, it occurred to Ehrlich to try the effect of using a solution of aniline oil instead of potash or ammonia, as the solutions of fuchsin and methyl-violet do not work well with the latter alkalies.

The results were highly satisfactory, and with some unimportant modifications Ehrlich's process has come into general use, and Koch in his last publication,[1] issued in 1885, says that he always uses it and most emphatically recommends it.

Besides aniline or aniline oil there is a similar body formed in the same way from toluol ($C_7 H_8$) that aniline is formed from benzol ($C_6 H_6$). This is called toluoidine, and may be mixed with water, filtered and used precisely like aniline.

From mixtures of these two substances various compound salts are obtained of most remarkable colors, giving the so-called aniline dyes. These are divided by Ehrlich into acid and basic, according to whether the acid or the color-base is the coloring principle, as far as concerns the election of certain tissues or microbes for the color. The so-called acid dye-stuffs, like eosine, picric acid, alizarin, etc., do not concern us here. For staining tubercle bacilli we use exclusively the basic aniline colors.

Among these are methyl-violet (chloride of trimethyl-rosaniline) in crystals and in alcoholic solution; in the last case it is very like hectograph ink, if not identical with it. The latter fluid is said to be an excellent material for staining tubercle bacilli when it is added to water to saturation. Fuchsin (chloride of rosaniline) in small crystals, and in solution, is readily recognized as one of the dyes commonly sold to stain Easter eggs. The peculiar shining bronzed appearance of either of the above when dried from an alcoholic solution is very beautiful. They both have the property of losing their color instantly when in the presence of a strong acid, as may be seen by putting some nitric or hydrochloric acid in a watch-glass which has been deeply stained by them; in fact this is the way in which the stains of these coloring agents must be removed from glasses or from the fingers.

[1] Communications, Germ. Imp. Health Office, for 1884.

Methylene-blue is a dark powder, and is used in solution of 10 gr. to ℥ i. in water. The color is intense, and is not acted on by acids. The same is true of the brown powder and solution of vesuvin.

Other aniline colors there are, many and beautiful, some of which are used for staining various bacteria or for double staining, such as eosine, dahlia-violet, etc., but these we need not now consider.

To prepare our tubercle stain we shake aniline oil ℥ ss, with distilled water ℥ x; a sort of unstable emulsion is formed, but part of the oil is really dissolved, and the turbid mixture is next filtered. To make it clear a double thickness of paper should be used, not forgetting to wet it thoroughly first, preferably in hot distilled water, in order to swell the paper. If it does not come through clear at first, or if little drops form in the filtrate, it must be run through the filter again. To this clear filtrate is added ℥i $\frac{1}{10}$ of a saturated solution of methyl-violet (or fuchsin) in absolute alcohol, and ℥i of absolute alcohol.

Aniline oil	℥ ss.
Aq. dist.	℥ x.
Shake well and filter thoroughly. Add	
Sat. alcoholic sol. methyl-violet (fuchsin) . .	℥ j. 1-10.
Absolute alcohol	℥ j.
Keep in well-stoppered bottle, preferably away from light.	

The proportion in any amount of the ingredients is 5, 20, 11, 10. Any apothecary can learn to make the solution, although the gravity of the diagnosis involved makes it very prudent for the careful man to make his staining solutions himself.

The other stains necessary are a solution of vesuvin (or methylene-blue) in distilled water 10 gr. to ℥i.

All these should be filtered on every occasion when they are used, in order to be sure that whatever bacteria we find were in the substance examined, and not in the reagents employed. For discharging the color of the first stain used, nitric acid one part, water two parts, is employed, from half a minute to three minutes, and this apparently takes out all the color, but under the microscope it is found that the tubercle bacilli have the very remarkable power of retaining their stain even when exposed to the acid. No other bacteria which can be confounded with them in practice have this power, and thus the diagnosis is made with all the precision of a chemical test.

I will say, parenthetically, that polished office tables, or those with enameled leather tops, as well as Sunday clothes, show the same remarkable tenacity for aniline colors.

The cover glasses to be used should be new, for, if used previously in looking for bacteria, it is very likely that some of the previous material will adhere to them. If old ones are to be cleaned, they should be put in strong sulphuric acid, which burns off all organic matter found on them.

A very little of the sputa is taken with a wire loop or pincers which have been first heated and then cooled, selecting especially any minute white lumps, which may be pure masses of bacilli. The little drop so

taken is laid between two cover-glasses, which are then rubbed together until the drop is quite evenly distributed. The glasses are then slid apart, not lifted from each other, but separated by sliding them in parallel opposite directions. They are then turned wet side up and allowed to dry thoroughly; they should meanwhile be protected from dust.

After this, one must remember which is the side with the sputum, for it is very hard sometimes to distinguish by sight the prepared side from the clean one. If necessary, the distinction is made by observing, when the glass begins to dry, which side is dull and lustreless and which is bright when so held as to reflect the light. The clean side will act like a mirror.

When dry and not sooner, the cover is to be passed three times, with the clean side down, through the flame of a Bunsen burner or spirit lamp, not too fast, nor yet slowly enough to scorch it. This bakes on the sputum, so that it will not wash off. Then it is laid in a watch-glass swimming clean side up on some of the first stain, here methyl-violet, and heated by passing back and forth through the flame, until little bubbles form under the cover-glass. That is the auspicious moment to stop the heat; in a moment it will boil up in a way that shocks the nerves, and the agitated hand scatters the stain over table and trousers, or the glass cracks, spreading dismay and sometimes causing profanity,—I would advise beginners to get a little porcelain dish, and, supporting that on a stand, to move the lamp back and forth under it; when the crisis comes, nervousness is less disastrous. The dish is now left to cool for some ten minutes — or, instead of the above heating of the fluid, the cover-glass may be left overnight to swim on the staining-fluid, without heating, say for twenty-four hours, and this is how sections of tissues are treated, because they cannot endure boiling; sections cut in celloidine must have the latter removed by ether and alcohol before staining for bacilli. For a negative diagnosis, that is, when no bacilli are found by the first process, and it is desired to make sure that none are present, it is well to leave some cover-glasses floating on the unheated staining solution from one day to another; also, when there is no hurry, this method saves trouble.

Next the cover-glass is taken up with forceps, not forgetting which is the prepared side, and, after rinsing in water, or preferably in 60 per cent. alcohol, is put in the nitric acid.

Instantly the color changes, it becomes light yellowish-brown and mostly disappears; when the color is nearly gone the glass is washed in pure water; here it will again become faintly violet, and if the color is feeble it is well; if, however, it is strong, the glass must be dipped in the acid again. After washing, the glass is made to swim on the solution of vesuvin, (or if fuchsin has first been used, methylene-blue is the proper contrast) for about five minutes. This removes the remaining violet color from everything except the tubercle bacilli, and stains the pus cells and any other bacteria present in the contrasting color.

The glass is now washed in water, and may be examined in water, or dried and examined in cedar oil, or dried and mounted in Canada balsam. The latter must contain no chloroform, and is best used warm, so that when cool the preparation is firm, and will not move when rubbed to remove the oil used with the immersion lens. No oil of cloves must be used, as this will discharge the color from the bacilli; this is not important for sputa, for here the cover may be simply dried and put up in balsam; but in sections of tissues it is important to use cedar oil instead of oil of cloves for clearing up the tissues. The balsam must not be heated too hot; if necessary it can be thinned with oil of turpentine or xylol.

This, then, is the full and orthodox method, as successively improved by Ehrlich, Weigert, and Koch. Fraenkel puts the acid into the vesuvin (or blue) solution, thus making two steps instead of three; it is not found to be a practical advantage, however.

Of course there has been a strong desire to have a permanent solution, and it occurred to Ziel to use carbolic acid (or phenyl alcohol ($C_6 H_5$) H O, instead of aniline oil (or phenyl ammonia).

His formula is as follows:

5 per cent. aqueous sol. of carbolic acid	100 ccm.
Fuchsin	gram. 1.
Absolute alcohol	10 ccm.
Mix and filter well.	

For discharging the color, muriatic acid one part, water two parts, is used. This fuchsin solution is quite permanent. I have used one solution for five months. I filtered it yesterday, but there was no sediment. It is used precisely as above, and gives excellent results. I show you specimens made last July with Liel's method, at the pathological institute in Vienna, where the energy of Professor Kundrat and the zeal of his accomplished assistants, Drs. Paltauf and Kolisko, both carry on a great amount of valuable work in bacteriology and offer great facilities for post-graduate study. The specimens have not faded at all as yet, and except for difficult diagnosis or cases where it is especially desirable to show that no bacilli are present, I can recommend the latter formula, which is quite in favor at the pathological institute in Vienna.

It is possible, but by no means certain that it is not so sure of finding isolated and rare bacilli, but, if found, the chemical reaction and diagnosis is just as perfect as by the first method given. There are other methods, but, as this is meant to be a practical demonstration and not an exhaustive paper, I will say nothing more about them.

A word as to microscopes. I have brought two, one with the ordinary system of lenses and illumination, including a small sub-stage bull's eye condensor. The other with oil immersion and Abbé condensor. You can observe the great superiority of the latter, and yet with the former and with a power of 400, which most microscopes give, the tubercle bacilli can be recognized.

It is fortunate that they are comparatively large, so that it is not necessary for recognizing them to have a special microscope, however desirable it may be. For those who expect to buy a microscope, for this or any other purpose, however, I would strongly recommend such a one as I show you, with a 1-12 wide angle oil immersion and an Abbé condensor; the latter is a bull's eye, flat above, about one inch in diameter, placed below the stage. It receives the light from a very large plane mirror and throws it from all sides on the highly colored bacteria, giving plenty of light with the highest powers, and, when used without diaphragms, abolishing all shadows in tissues, so that they become semi-transparent, and the bacilli can be seen below the surface of the tissue, or of the layer of sputum. With suitable diaphragms the Abbé condensor can be used

for ordinary histological work. The ordinary size can only be adapted to microscopes with a large stage, and plenty of room, but Klonne and Müller of Berlin, (Prinzen Strasse) have arranged a system to put on common microscopes, which works very well for most purposes, and is quite sufficient for finding tubercle bacilli. The cost of a 1-12 oil immersion, like this, made by Leitz of Wetzlar, is in Germany twenty-five dollars. An Abbè condensor costs half as much; you will observe that the whole system of condensor and diaphragms can be slid up and down, by which the focus can be altered so as to give the best definition for different sources of light, objectives, or oculars; usually the upper surface of the condensor should just touch the lower surface of the slide. The oil used with the immersion is equal parts of Ol. Ricini and Ol. Fœniculi, this, being of about the same angle of refraction as glass, renders correction for thickness of cover-glass unnecessary.

Perhaps it is not superfluous to say that oil, if used with water immersion lenses, will spoil them by soaking between the glasses. The specimen which I have here stained is pus from the lung of the patient whose tuberculous larynx has just been shown you by Dr. Gannett, to whose courtesy I am indebted for the specimen of lung.

The preparation is now ready, and as the Canada balsam was warm, it is already firm, now that it is cold. With a power of 400 you can see a large number of the bacilli, stained bright violet, on a yellowish-brown ground. With addition of a drop of oil and under the highest power of the immersion 1-12, and No. 3 ocular, we get an amplification of 1,000 diameters. You can see that many of the bacilli contain spores, which appear white, as they do not take the color.

Under the next microscope is a preparation of tubercle bacilli from a specimen of sputum brought me by Dr. H. I. Bowditch.

As you see, they are very distinct, and in this place there are four or five close together, although there are only a few on each slide. One slide had none, one about ten, and one perhaps twenty. The patient was a boy, who after undergoing an attack of pulmonary disease some years ago, had had now for four weeks frothy expectoration, cough and suspicious symptoms. The results of physical examination were not sufficient, in the opinion of Dr. Bowditch, to warrant a diagnosis. There was some rough respiration in right front of chest, and an obscure and uncertain dulness, with slight bronchial respiration and crepitant râle, in lower half of same lung. Altogether, however, Dr. Bowditch felt that the physical and other symptoms were so indistinct that no positive diagnosis could have been made except by finding the bacilli.

I have also here a similar preparation from sputum, sent me by Dr. Marcy, of a gentleman whose rational and physical symptoms were too equivocal to warrant a diagnosis. There was little expectoration, once slightly tinged with blood; he was in middle life, not emaciated, very active and vigorous, and attending to his business. There was a slight diminution of respiratory force at the right apex; expiration slightly prolonged; no crepitant râles.

The bacilli, though infrequent, are very distinct, and the decision by the microscope has caused the patient, by the advice of Dr. Marcy, to decide to make arrangements to go and live for a long period in a more favorable climate.

Per contra, in a specimen sent me by Dr. Knight, from a patient whose symptoms, though indefinite, were very suspicious — particularly an erosion of each vocal chord, forming in each a deep notch — I was unable to find any bacilli.

Dr. Knight stated that these deep erosions or nicks in the chords were, in his experience, seldom found, except in cases where tuberculosis was present, but here the examination of the chest gave no diagnosis, although the expectoration and the condition of the chords gave ground for anxiety.

The patient's condition improved for a time, but three months after the above examination he grew worse, with high temperatures, etc., but no clear physical signs. I now found plenty of bacilli in the sputa. He died a few weeks later.

In this bottle I have sputum sent me by Dr. Clarke, of Cambridge, from a case similar to the one of Dr. Marcy's above mentioned, where the principal symptom is profuse expectoration in a gentleman who is able to attend to his business, and has no physical symptoms from which a diagnosis can be made, although his general condition is sufficient to cause some anxiety. Here a very few bacilli are to be found, two or three on each cover-glass.

The above cases are fair samples of others which I could mention, showing the advantage of microscopic examination of the expectorations of patients even suspected of being consumptive. Of course, in well-developed cases, the disease can be readily recognized by other means of examination, such as auscultation and percussion. But in some cases, it is certain that the diagnosis can be made by the microscope several, or many, months before the disease is sufficiently developed to be diagnosticated in any other way. Who shall measure the advantages of an early discovery of such a fatal disease, in those who, by a change of climate, occupation, etc., are able to put themselves under the best conditions for getting well?

It is for this reason that I insist on the importance for practical physicians, of this method of diagnosis. I wish to compare it, in importance and usefulness, with the examination of the urine for casts in Bright's disease. Some cases of Bright's do not show casts during considerable periods; in some cases, the diagnosis can be made pretty surely without the microscope. Not every one can easily tell a cast from a roll of mucus with cells in it. But yet no one would say that he had made a real and proper examination of a patient with suspicious symptoms, until the urine had been well searched for casts.

Now, *mutatis mutandis*, all this is true of phthisis pulmonum, and my contention is that it is the duty of a physician who undertakes to make a diagnosis of the presence or absence of consumption, to examine the sputa for bacilli, except in cases so far advanced that there is no difficulty whatever by ordinary methods. It is not so very long since ordinary methods, namely, auscultation and percussion, were considered new-fangled and unnecessary; in proof, the funny verses of our venerable poet-physician, who, I believe, brought one of the first stethoscopes to Boston, at a time when the lights of those times could, as they thought, make a diagnosis easily enough from the general symptoms.

The examination of sputa by the microscope for bacilli is now taught to the students at Harvard; it is learned by those who go abroad, where they see it

used, as a matter of course, in the hospitals in all cases suspected of consumption.

Sometimes the diagnosis is difficult; careless work, or poor instruments, may make it erroneous; but the same is true of Bright's disease, and in fact, of most other diseases.

The method is not a mere craze; it has come to stay, and any one of the profession who wishes to be *teres, totus atque rotundus*, to do his very best by his cases, ought to take it up, learn it, and use it. I shall be very glad if I have here been of any service to such.

As a matter of convenience, in recording an approximate estimate of the number of bacilli found, in the average of slides examined in any case, I subjoin the scale given by Gaffky, in the Communications of the German Imperial Health Office, 1884. He divides the numbers of bacilli found on one cover-glass, prepared as above, into ten grades, as follows (it being understood that the field visible at any one time is that seen with objective 1-12 oil immersion, ocular II, giving a power of 800 diameters; the area seen is about 1-4 millimeter, or 1-100 inch in diameter):

1. In the whole amount on a cover-glass, 1-4 bacilli.
2. In several microscopic fields of view together, only 1 bacillus.
3. In every microscopic field of view, on the average, about 1 bacillus.
4. " " " " " " 2-3 bacilli.
5. " " " " " " 4-6 "
6. " " " " " " 7-12 "
7. " " " " " a good many "
8. " " " " " numerous "
9. " " " " " very numerous "
10. " " " " " enormous numbers of bacilli.

I think this scale convenient, and as nearly accurate as any method of recording or comparing can be, and, if generally adopted and understood, it will be found useful in recording examinations, and in comparing the condition of the patient at different times.

It is not necessary that the sputa be examined at once when collected. The bacilli stand ordinary putrefactive changes in their environment very well. The sputa may be kept or sent from one place to another either in a vial, or by being dried and baked on to cover-glasses, as I have showed you to-night. The addition of a weak solution of carbolic acid does not interfere with the coloring, but is not necessary, except to prevent unpleasant odors.

In reply to the question as to what amount of examination seems necessary in order to say that the bacilli are *not* present, I would say that, in a doubtful case, I think it sufficient to prepare three pairs of cover-glasses, using the quick method with two pairs, and leaving the other two glasses to swim, until the next day, on the unheated staining fluid. If no bacilli are found in the six glasses thus examined, another examination, or even two, should be made at intervals, just as is customary in searching for casts in Bright's disease.

If still no bacilli are found, it is pretty safe to infer that the patient has not, at that time, pulmonary tuberculosis (unless it be acute miliary), although theoretically, it is possible that the bacilli may be in the lungs, and have no access to the bronchi; but for ordinary phthisis, or consumption, the diagnosis can be made with practical accuracy.

Hotel Pelham, Boston.

— Russia has 33,400 physicians, of whom 380 are females. There are 2,100 persons licensed to practice veterinary surgery. 500 are enrolled as dentists and "oculists."

REPORT ON MEDICAL CHEMISTRY.

BY WILLIAM B. HILLS, M.D.

ARSENIC.

In cases of suspected arsenical poisoning, it is sometimes a question whether any poison found was taken into the body during life or was introduced after death. This question arose in a case which was tried a few years since in Michigan.[1] A lady died with symptoms which strongly suggested irritant poisoning. The body was exhumed one hundred and five days after death. Prof. A. B. Prescott found about twenty grains of arsenious oxide in the stomach and rectum together, and he calculated from an analysis, that the whole liver contained from six to fifteen grains, according to the size of the organ. The body was again exhumed later, and the brain and a portion of the muscles of the calf of the leg examined; in these no arsenic was found. The husband claimed to have injected arsenious oxide suspended in water into the mouth and rectum for the purpose of preserving the body. The six experts in the case were equally divided on the question "granting that the arsenic was injected into the mouth and rectum in the manner claimed, could it reach the liver and other organs outside the alimentary canal?"

Drs. Vaughan and Dawson made some experiments at this time, which showed that, when arsenious oxide was injected into the mouth and rectum after death, it was so far diffused that at the end of twenty-five days it could be detected in the liver, heart, spleen, kidneys and brain.

More recently, Mr. Frank S. Sutton has made a series of experiments on this subject in the laboratory of Professor Wormley, the bodies of dogs killed with chloroform being employed.[2] In each case three grammes of arsenious oxide suspended in fifty cc. of water were injected into the stomach, and an equal quantity of the oxide in ten cc. of water into the rectum. The body was then buried in the earth. In four cases, in which the injections were made in from twenty-three to twenty-six and one-half hours after death, and the bodies exhumed at the end of one hundred and two, seventy-four, forty-four and eighteen days respectively, arsenic was found in the liver, kidneys and brain. The quantity of arsenic was larger the longer after the introduction of the poison the body had been buried. In the most protracted case ten milligrammes of arsenious oxide were found in the liver.

Even when the injection was made ten minutes after death and the body examined at the end of three days, the final solution from the brain gave a well-marked stain in the reduction-tube of a Marsh apparatus, and satisfactory evidence of the presence of the metal in the liver and kidneys was obtained. But when the injection was made twenty-four hours after death and the body examined at the end of three days, the final solution from the brain furnished only the faintest trace of arsenic. The metal was present in very minute quantity in the liver, but it seemed to be entirely absent from the kidneys. These experiments show that, when the injection is made very soon after death, the diffusion takes place more readily than when the injection is not made until some hours after death.

This question of the *post-mortem* diffusion of arsenic

[1] American Journal of Medical Sciences, October, 1883, page 390.
[2] Wormley's Micro-Chemistry of Poisons, Second Edition, page 311.

is of great importance and is liable to arise in any case of suspected arsenical poisoning. Embalming fluids containing arsenious oxide are employed very frequently by undertakers for preserving bodies after death. These fluids are injected into the mouth and rectum and sometimes into the abdominal and pleural cavities. Experiments thus far made justify the conclusion that chemical analysis, even of the most remote organs, as the brain, will not enable the expert to say that the arsenic found was introduced into the body before death.

MM. Brouardel and G. Pouchet [3] have made a series of experiments relative to the elimination of arsenic through the milk. They gave to nursing mothers Fowler's solution, in doses of two drops gradually increased to twelve drops daily. No bad symptoms followed in any case, but an appreciable quantity of arsenic was always detected in the milk. The milk of one woman who took twelve drops of Fowler's solution daily for six days contained one milligramme of arsenic in each one hundred grammes. Experiments on animals gave similar results. Their young in many cases died, and analysis showed the presence of arsenic in their bodies. The conclusion is reached that it is not prudent to administer arsenic to nursing mothers except in cases of absolute necessity.

These investigations were suggested by a case of suspected arsenical poisoning. A man was accused of having attempted to poison his wife by administering to her arsenious oxide. The attempt was unsuccessful, but her nursing child, two months old, was attacked with vomiting and diarrhœa, and died in forty-eight hours. The body of the child was exhumed after the lapse of several months and was found almost wholly converted into adipocere. The skin was intact. The whole body, which weighed only two kilogrammes, was subjected to analysis, and was found to contain a relatively large quantity (five milligrammes) of arsenic. The experts considered it possible that the arsenic was introduced into the child's system through the milk of the mother.

Schlagdenhauffen and Garnier [4] have made some investigations, the results of which confirm those obtained by Orfila in 1847, and prove that bodies buried in an arsenical soil cannot receive any arsenic through the medium of rain water percolating through the soil. Arsenic is found in many soils, especially in red sandy soils, in which it probably exists as ferric arseniate. This compound is slightly soluble in boiling water, but is quite insoluble in cold water, and cannot be extracted by rain water percolating through the soil. If an aqueous solution of any compound of arsenic is left in contact with a clayey soil containing lime or iron at the ordinary temperature, the arsenic is gradually converted into insoluble compounds which are retained by the soil. Any arsenical compound introduced into such a soil, and subjected to continual infiltration of rain, if originally insoluble, remains insoluble; but if soluble, it gradually becomes insoluble, and at a depth of 0.6 — 0.9 m. from the point at which the arsenic is introduced, no arsenic can be detected in the infiltered water, even after fourteen months.

STRYCHNINE.

P. C. Plugge [5] contributes an interesting article on the elimination of strychnine. The author sometime since obtained from strychnine, by the action of potassium permanganate, an amorphous oxidation product, which has the properties of an acid and to which the name strychnine acid (strychninsäure) is given. The present investigation was undertaken for the purpose of ascertaining whether this oxidation product is also formed from strychnine in the system. Incidentally, however, several other questions were considered. The paper is of such length that we can give only the more important results of the author's investigations:

(1) Sonnenschein's reagent is the most delicate for both strychnine and strychnine acid.

(2) Chloroform is to be preferred to benzol for removing strychnine or the acid from aqueous solutions or from urine.

(3) Strychnine acid passes through the system in whole or in great part without undergoing any change. It can be detected in the urine passed two hours after the administration of two milligrammes of the acid.

(4) Strychnine passes through the system in great part without undergoing change. It can be detected in the urine passed two hours after the administration of one milligramme of strychnine sulphate.

(5) As a result of the exceedingly poisonous character of strychnine and the small doses which must necessarily be administered to avoid a fatal result, it is not possible at present, that is, until we have at our disposal more delicate analytical processes and tests, to show whether all the strychnine passes through the body unchanged, or whether a portion is decomposed.

(6) The elimination of strychnine takes place relatively slowly; traces of the alkaloid can be detected in the urine eight days after the administration of a single dose. This fact should not be forgotten in prescribing strychnine. When the administration of small medicinal doses is continued for a considerable time the alkaloid accumulates in the system and symptoms of poisoning follow.

SULPHURETTED HYDROGEN.

P. Brouardel and P. Loye [6] have made experiments for the purpose of discovering, if possible, the cause of the variation in the symptoms observed in cases of poisoning by sulphuretted hydrogen. Dogs were allowed to breathe mixtures of air and sulphuretted hydrogen containing 2 per cent. and 0.5 per cent. of the latter gas. In the first case, death usually took place in two or three minutes; in the second case in from 17 to 50 minutes. The authors conclude that there are two forms of sulphuretted hydrogen poisoning. In one, death is sudden, and is due to action on the nervous centres; in the other death takes place slowly, and is due to asphyxia combined with action on the nervous system. The poisonous action is influenced more by the tension of the gas in the air than by the absolute quantity. A dog died in two minutes after breathing 5 litres of a 2 per cent. mixture; a second dog lived forty-five minutes after breathing 100 litres of a 0.5 per cent. mixture.

Dr. G. A. Smirnoff has made extended experimental researches on the action of sulphuretted hydrogen on the animal system. A summary of the results of his investigations may be found in the *London Medical Record*, November 16, 1885, page 472.

[3] Journal de Pharmacie et de Chimie, 1885, page 363, from Ann. d'hygiène publ., 1885, page 73.
[4] Journal of the Chemical Society, London, September, 1885, page 1009, from Compt. rend., 100, 1388.
[5] Archiv der Pharmacie, November, 1885, page 833.
[6] Compt. rend., 101, page 401.

POTASSIUM CHLORATE.

Schack [7] recommends the following process for the quantitative estimation of this salt in urine. The urine is completely precipitated with basic acetate of lead; the filtrate is freed from lead by means of sulphuretted hydrogen, again filtered, and warmed until the excess of sulphuretted hydrogen is removed. Upon evaporating the resulting colorless liquid to the point of crystallization, a small amount of the salt separates. The mother-liquor is diluted with water up to twenty-five cubic centimetres and five cubic centimetres are titrated with deci-normal silver solution. To another five cubic-centimetres, a few drops of solution of sodic carbonate are added; the solution is then evaporated to dryness, gently ignited, and extracted with water; in this solution, after neutralization with nitric acid and addition of potassium chromate, the chlorine is estimated with deci-normal silver solution. From the difference in the amount of chlorine obtained by the two titrations, the amount of potassium chlorate contained in the mother-liquor can be calculated. The salt could not be detected in blood which had undergone putrefaction.

J. v. Mering [8] confirms Marchand's view that potassium chlorate converts the hæmoglobin in the blood into metahæmoglobin, thus rendering the blood useless for the process of respiration. This action is dependent on the amount of chloric acid present, which has just the same effect as the salt.

THE POISONOUS CHARACTER OF URINE.

Considerable attention has been given to this subject during the past few years, and many attempts have been made to determine the constituent of urine to which its toxic effect is due. Bouchard [9] found that it required much more urea to kill an animal than was contained in a poisonous dose of urine; that uric acid was nearly harmless, as were also the extractive matters; that the potassium salts, though poisonous, were not so in the small quantities contained in the urine injected; that the urine lost half its toxic power when decolorized with animal charcoal, and that the poison was not volatile. Lépine and Aubert [10] have recently studied the relative toxic effect of the organic and saline constituents of the urine. Two dogs of the same species and as nearly as possible the same size were taken, and into the femoral vein of one of them a quantity of urine was injected just sufficient to cause death. A second larger quantity of urine was evaporated to dryness, the residue incinerated, the ash dissolved in a volume of water equal to the volume of the original urine, and this solution injected into the femoral vein of the second dog until death resulted. With normal urine, if 60 cc. per kilo. of the dog's weight were sufficient to cause death, a slightly larger quantity, about 65 cc. of the solution of the ash was sufficient to produce the same result; in other words, in normal urine, 85 per cent. of the total toxic effect is due to the saline constituents. With febrile urine, however, the results were very different. If 25 cc. of urine per kilo. were sufficient to cause death, a much larger quantity, about 40 cc. of the solution of the ash was required to bring about the same effect; in febrile urine, therefore, only 55 per cent. of the toxic effect is due to the inorganic salts. The symptoms produced by febrile urine are different from those produced by normal urine; the former may produce violent clonic convulsions, whilst the latter always kills by stopping the action of the heart.

[7] Archiv der Pharmacie, August, 1885, page 596, from Pharm. Ztg., No. 48.

[8] Journal of the Chemical Society, London, September, 1885, page 1062, from Chem. Centr. 1885, page 249.

[9] British Medical Journal, July 4, 1885.

[10] Journal of the Chemical Society, London, October, 1885, page 1085, from Compt. rend., 101, page 90.

ALKALOIDS IN URINE.

According to Bouchard and Pouchet, normal urine contains substances of an alkaloidal nature. Villiers,[11] however, maintains that alkaloids are not present in normal urine, but that they are constantly present in the urine of persons suffering from certain diseases and even in the urine of persons suffering from slight indisposition only. They have been found in the urine of various acute diseases: for example, typhoid fever, pneumonia, rubeola, diphtheria, cholera. They are probably formed in some of the organs of the body and passing from these into the circulation, are eliminated through the kidneys. Villiers suggests that they may be the cause of death in certain cases, owing to the fact that they are formed more rapidly than they are eliminated; and he considers that the ingestion of large amounts of water may in many cases prove beneficial by facilitating the elimination of these alkaloids.

[11] Journal de Pharmacie et de Chimie, 1885, page 246.

Hospital Practice and Clinical Memoranda.

AN ANALYSIS OF 412 CASES OF LOBAR PNEUMONIA, OCCURRING AT THE MASSACHUSETTS GENERAL HOSPITAL BETWEEN JANUARY 1, 1870, AND DECEMBER 31, 1885.[1]

BY CHARLES W. TOWNSEND, M.D., LATE MEDICAL HOUSE OFFICER.

THE following analysis has been made from the records of the hospital for the last fifteen years, excluding only those cases dying within twelve hours of entrance. Fractions in the percentage figures have generally been omitted, everything above one-half counting for an additional unit, everything below one-half being neglected.

Hospital statistics on disease are objected to [2] as not giving on some points a true picture of the disease such as would be found in statistics from private practice, which include all classes of society. Thus hospital mortality is increased by the fact that severe cases are more likely to be sent there, and cases whose destitution or intemperate habits have left them without other refuge than the hospital, while the more thrifty are cared for at their homes. But on the other hand many rapidly fatal cases are debarred from the hospital from their very rapidity. That the age of young adults is the most common age for this disease in the hospital may be partly explained by the fact that at this age men in the lower classes are frequently without homes and depend on their daily labor, and are hence sent to the hospital in severe illness. Younger men and children are still taken care of by their parents, while older men may have made homes for themselves unless they are thriftless, which generally means intemperate, and this latter fact may partly account for the great mortality in the older men. Bearing in mind these limitations, the following statistics are given for what they are worth.

Of the 412 cases, 311, or 75¾ per cent., recovered,

[1] The hospital records were examined with the permission of the late resident physician Dr. Whittemore.

[2] Juergensen Croup. Pneumonia, in Ziemssen's Cyclop. American trans. Vol. v.

and 101, or 24½ per cent., died. The mortality found by the British Collective Investigative Committee[3] on 1,066 collected from private practice in the British Isles is a little over 18 per cent.

In the following table the number who recovered and died at different ages is shown, those under ten years being omitted, as there were only two, of whom one recovered and one died.

Age.	Recovered.	Died.	Total.	Death per ct.
10–19	40	5	45	11
20–29	114	25	139	18–
30–39	81	18	99	18+
40–49	46	19	65	29
50–59	18	20	38	53
60–69	7	8	15	56
Above 70	3	5	8	63

This would show that the age of greatest frequency is in the young adult from which point the frequency steadily diminishes while the rate of mortality increases as age advances. The following charts show at a glance these facts.

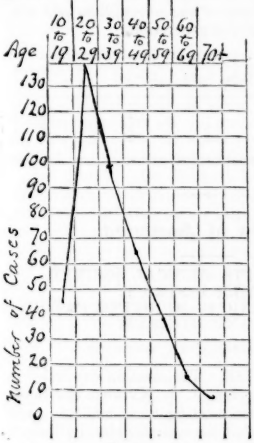

Fig. 1.

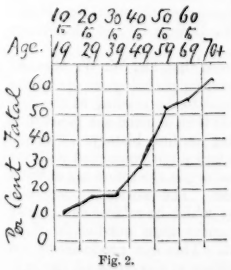

Fig. 2.

As to sex 217 males recovered and 71 died, mortality 25— per cent., and 88 females recovered and 28 died, mortality 24+ per cent. The much larger number of males (more than twice as many) may be partly due to the fact that they are more likely to be taken to a hospital than females, but the British Statistics[4] from outside practices show a nearly equal preponderance of male, namely, 704 males to 356 females. The mortality, which is usually stated to be higher in females, here practically the same in the two sexes, in the British Statistics the male mortality being 14.2, the female 09.9.

The previous condition of patients as to health and alcoholic habits were unfortunately often passed over in silence in the records, but the following table includes those cases where these points are mentioned.

Of the "delicate" who recovered, 1 had heart disease, 4, phthisis, and 1, Bright's disease; of those who died, 3 had heart disease, 1, phthisis, 3, Bright's disease, 4, asthma, 1, marked lateral curvature, 1, Pott's disease, and 1 was an idiot.

[3] Collec. Invest. Rec., Vol. II.
[4] Loc. cit., page 30.

Previous Condition.	Recovered.	Died.	Total.	Death per ct.
Good Health . .	201	37	238	16
Delicate	45	21	66	32
Temperate . . .	35	6	41	15
Intemperate . .	25	17	42	40

Of 205 cases, 138 were said to follow exposure, and 67 occurred without known exposure; in the other cases no mention is made of this point, and it seemed probable that a majority of these were without exposure, because patients are generally extremely anxious to state the ætiology in a disease supposed by them to be due to catching cold.

The prevalence in different months is shown as follows.

Month.	Recovered.	Died.	Total.	Death per. ct.
January	38	9	47	19
February	27	11	38	29
March	34	19	53	36
April	58	15	73	21
May	42	5	47	11
June	7	9	16	56
July	12	3	15	20
August	6	2	8	25
September . . .	14	0	14	0
October	17	6	23	26
November . . .	31	9	40	23
December . . .	27	10	37	27

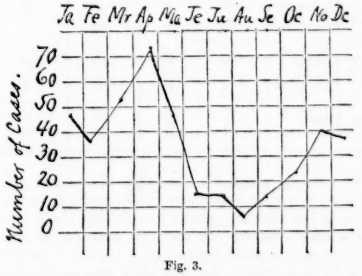

Fig. 3.

In the following table portions of the lung are arranged in the order of the frequency with which they are affected by the disease.

Seat.	Recovered.	Died.	Total.	Death per ct.
Lower right lobe .	112	13	125	10
Lower left lobe .	68	7	75	9
Both lungs . . .	38	27	65	42
Whole right lung	34	22	76	39
Upper right lobe .	34	10	44	23
Whole left lung .	12	11	23	48
Upper left lobe .	10	7	17	41

This agrees almost exactly as far as the order of frequency is concerned, with the English analysis, the only difference being that portions of both lungs as shown by that analysis are more frequently affected than the lower left lobe. The relative fatality of the different portions of the lung affected is of much less value, owing to the small number of cases. This is shown by comparison with the English list arranging the tables in order of fatality.

Mass. General Hospital.		Collective Investigation.	
Whole left lung,	48 per cent.	Both lungs,	30 per cent.
Both lungs,	42 "	Whole right lung,	28 "
Upper left lobe,	41 "	Whole left lung,	17+ "
Whole right lung,	39 "	Lower left lobe,	17— "
Upper right lobe,	23 "	Upper right lobe,	13+ "
Lower right lobe,	10 "	Lower right lobe,	12— "
Lower left lobe,	9 "	Upper left lobe,	12— "

Both analyses agree in making affections of both lungs, the whole of either or the left apex most fatal, while the right apex and the two bases are much less fatal.

An examination of the records as regards symptoms show that of 325 cases in which mention was made, 207 had a marked chill or rigor, 61 chilly sensations only, and 57 were stated to have had neither. Of 374 cases, in 366 thoracic pain was present at some time in the disease; in 8 it was absent. Cough was mentioned in 399 records, stated to be absent in 3, and present in 396; in 106 of the latter it was noted as slight. Expectoration was absent in 21 of 383 cases and present in 362; in 121 of the latter it was said to be slight. Of 341 cases in which the character of the expectoration was noted, in 278 it was bloody or rusty, and in 63 blood was absent. In 343 cases there was a record of the temperature, in 333 of the pulse, and in 307 of the respiration, and an analysis of these give the following results:

		Recovered.	Died.	Total.	Death per ct.
Temp.	Below 102°	56	12	68	18
	102°–104°	133	37	170	22
	Above 104°	68	37	105	35
Pulse	Below 100	55	2	57	4—
	100–120	126	15	141	11
	120–140	61	28	89	31
	Above 140	6	40	46	87
Resp.	Below 40	141	13	154	8
	40–60	79	56	135	41
	Above 60	7	11	18	61

For value in prognosis the table shows the small mortality when the pulse does not exceed 120 beats in a minute, the mortality slightly exceeding the average with a pulse between 120 and 140, and the enormous mortality with a pulse above 140. With a respiration below 40 in a minute the mortality was small, above that, large.

The termination of the disease was in 128 cases by crisis, in 84 by lysis. The 8th day was the one during which crisis most frequently occurred, this being the fact in 24 cases. In 22, the crisis came on the 9th day; in 16, on the 7th day; 12 on the 10th day; 11 on the 12th day; 9 on the 6th day; 8 on the 11th day; 6 on the 5th day; 4 on the 13th day, and 1 on the 14th day; in 5 crisis took place in the 3d week, and in 5 during the 4th week.

The favorite time for lysis was in the 3d week, 13 taking place then; 7 reached normal by lysis in the 4th week and also on the 11th day; 6 on the 9th and 13th day; 6 on the 12th day; 4 on the 8th day, and also in the sixth week; 3 on the 10th day, and also in the 5th week; 2 on the 7th day, and in the 7th week, and 1 each on the 14th day and 9th week.

In 74 cases in which the day of death was found, in 11 it occurred on the 8th day; in 9 on the 9th day; 7 on the 11th day; 6 on the 10th, and also on the 14th day; 5 on the 6th day; 4 on the 7th day; 3 each on the 12th, 13th, 15th, 16th and 17th days; 2 on the 5th and 25th days, and 1 on the 18th, 19th, 20th, 24th, 30th, 35th, and 60th days.

A thorough examination of the treatment was not attempted. Stimulants, generally in the form of whiskey or brandy were given in nearly 200 cases, including nearly all the fatal ones. A nourishing liquid diet, given more systematically in late years. Bleeding in not more than 4 or 5 cases; squills and tartrate of antimony in a very few cases; ipcac in small doses in a moderate number. In a word, the treatment, more especially of late years, was sustaining and expectant.

Complications: 23 cases were complicated with a well marked pleural effusion; of these three died. 8 had also typhoid fever, of whom 3 died. 12 were complicated with delirium tremens and 3 died. 2 had acute rheumatism and 1 died. 2 had pericarditis and 1 died; 1 empyema and died: 1 peritonitis, and 1 intermittent fever, both recovering. The chronic diseases complicating the cases have already been mentioned.

There are records of 29 autopsies, and the following table shows the condition of the spleen, liver and kidneys as regards granular degeneration.

	Gran. degen.	Normal.	No mention, or doubtful.
Spleen	17	10	2
Liver	9	11	9
Kidneys	11	10	8

Reports of Societies.

MASSACHUSETTS MEDICAL SOCIETY, SUFFOLK DISTRICT. SECTION FOR CLINICAL MEDICINE, PATHOLOGY AND HYGIENE.

ALBERT N. BLODGETT, M.D., SECRETARY.

FEBRUARY 10th, 1886. The meeting was called to order at 8 o'clock, by DR. F. I. KNIGHT, Chairman. The records of the last meeting were omitted. The chairman announced that the committee on the finances of the Section, which was to have been appointed at the last meeting, had been chosen after the meeting, and consisted of the following gentlemen: Dr. Henry C. Haven, Dr. Vincent Y. Bowditch, and Dr. Albert N. Blodgett.

The Chairman announced that Dr. W. W. Gannett would exhibit some interesting pathological specimens before the Section, previous to the reading of the regular papers. Dr. Gannett then showed the heart of a patient with the following outline history. The patient had died from some cause not connected with the heart, but on opening that organ the following unusual conditions were observed. The aortic orifice was the seat of obstruction, by which its calibre was greatly reduced. Probably not more than one-fourth of its normal lumen was patent. This was produced by the fusion of the adjacent borders of the cusps of the aortic valves, in such a way that only a central orifice large enough to admit a lead pencil existed in which the blood could reach the aorta. An unusual feature about the case was the fact that the left ventricle was not the seat of hypertrophy as would naturally be expected

under these conditions. The ventricle usually becomes hypertrophied from the increased labor required to force the blood through the obstructed orifice, and the heart thus performs its function by the expenditure of an abnormal amount of force. When the heart has reached the limit of compensatory hypertrophy, its ventricle begins to yield to the strain, and we have dilatation in conjunction with the hypertrophy. Here, however, no dilatation is to be observed. This is due to the fact that there is also a concomitant disease of the mitral valve, by which the blood was allowed to regurgitate in part back into the left auricle, upon each contraction of the left ventricle. This condition was due to the thickening of the substance of the mitral valve, and to a shortening of the chordæ tendinæ, so that the mitral valve could not completely close the auriculo-ventricular orifice, and consequently a portion of the blood in the ventricle was with each pulsation allowed to return into the auricle. Thus the unusual condition arose, of extensive stenosis of the aortic orifice, with all the objective phenomena of obstruction at this point, but unaccompanied by the usually associated hypertrophy of the left ventricle. There was, however, marked dilatation of the right ventricle due to the backing of the blood from the left auricle, owing to the defective condition of the mitral valve. The case presents many interesting features, as it comprises in one specimen the conditions of stenosis of the mitral and of the aortic orifices, without hypertrophy of the left cavities of the heart, but accompanied by dilatation of the right ventricle.

Dr. Gannett also showed a specimen of fluid taken from the abdominal cavity of a female patient who died at the City Hospital. The case was interesting from the fact that the fluid bore a great resemblance to milk, both in color, consistence, and in the fact that it held in suspension a large quantity of fat in small globules. There has been no decomposition in the fluid though several months have elapsed since it was removed. The characters of the fluid are those of chyle, and the attention is at once directed to the distribution of the chylous channels as a possible key to the existence of so singular an effusion. It must be borne in mind that the lymph and chyle from the lower limbs and from the abdomen as well as from the left thoracic cavity is collected by the lymphatics of the thoracic duct, which empties into the left subclavian vein; while the lymph from the right side of the thorax and from the head empties into the right subclavian vein by a separate duct. The indications, therefore, were those of some obstruction to the flow of the chyle through the thoracic duct of the left side. Upon investigation there was found to be a thick and resistent projection into the lumen of the innominate vein, whereby the calibre of the vein was reduced to less than half its normal size, and the flow of blood must have been impeded to this degree, through this vessel. At a point just beyond the point of obstruction was observed a thrombus, situated at the junction of the internal jugular vein and the innominate vein. The thrombus occupied the entire lumen of the vein and extended beyond the point of entrance of the thoracic duct, thus entirely occluding its calibre. The chyle, therefore, was effused into the abdomen, into the left thoracic cavity, and occasioned disturbance in the nutrition of the lower extremities. The cases of obstruction of the thoracic duct which had been reported have been mostly associated with some form of skin diseases, generally scleroderma, which has thus come to be regarded as one of the indications of this condition, and strangely enough, the patient from whom the present specimen was derived entered the hospital on account of ulceration of the right leg.

In cases, therefore, in which an effusion occurs in the tissues of the lower limbs, in the abdomen and in the left pleural cavity, the possible existence of an effusion of chyle from obstruction of the thoracic duct should not be forgotten, this increases; to almost certainty, if on aspiration the fluid is found to be milky and to contain fat in suspension.

Dr. Edes asked if "chylous urine" existed in this case. Dr. Gannett stated that this feature had not been noticed.

Dr. Gannett then showed the larynx from a patient who had recently died in the hospital, in which an extensive tubercular ulceration had occurred. The disease was bilateral, almost symmetrical, and had extended from the tip of the epiglottis through the entire body of the larynx and to a depth of 6 cm. into the trachea. Over this entire area the mucous membrane was destroyed, the vocal cords had partially disappeared and the surface was composed of a grayish tissue, upon the surface of which, and in the substance of which could be seen numerous small grayish or grayish-yellow prominences. These were situated upon an irregular eroded surface, in which numerous ragged depressions existed where the loss of substance was even more extensive than elsewhere. . . . The patient had been aphonic for some time before death. The case was made more interesting by a preparation of a microscopic specimen of tubercle of the larynx, which was examined under a microscope in the hall. The bacilli were abundant, and were plainly visible to all present.

Dr. Blodgett asked if there was any extension of the disease into the structures surrounding the larynx and trachea? He had seen one case in which the sternomastoid muscles and the connective tissue adjacent had become infiltrated by tubercle, but he had never seen a case in which the local changes due to tuberculosis were so extensive or so striking. Dr. Gannett stated that the extra laryngeal tissues were not noticeably invaded though the primary seat of the disease was the pulmonary tissue, and there was extensive destruction of the lung structure from its ravages.

THE STAINING OF THE BACILLUS OF TUBERCLE.[1]

Dr. E. W. Cushing gave a detailed and careful description of the method employed by Koch in the detection of the bacillus of tuberculosis.

Dr. Cushing stated that the cover glasses should be new or that the same covers should not be used a second time, owing to the difficulty in cleaning them, as it is quite easy for some of the previous specimens to adhere to the covers, where it cannot be easily observed; if covers are to be cleaned they should be immersed in strong sulphuric acid, which effectually oxydizes all organic matters and renders the glasses chemically clean. . . . In the examination of suspected sputum, a small portion of the adherent mass, preferably a small fragment of the lumpy part of the expectoration should be placed upon a thin cover glass and another cover should then be firmly pressed upon it so that the sputum is confined between the two covers.

[1] See page 268 of Journal.

The covers should now be slid one upon the other, until the sputum has been evenly pressed smooth and in an exceedingly thin layer between them. The glasses must be dried thoroughly, at a gentle heat. The cover is then to be passed three times slowly through the flame of an alcohol lamp or through that of a gas burner in order to coagulate any albumenoid matters, and remove any traces of moisture. The cover is then allowed to swim upon a small quantity of the color, (in this case methyl-violet in aniline oil was used), and the specimen is left for twenty-four hours to become impregnated with the tint. Or the coloring may be hastened by heating the solution to nearly the boiling point, when small bubbles may be seen forming upon the lower side of the cover-glass, which is the indication that the heat must be removed. The cover should then be quickly washed in distilled water, and placed in a mixture of one part of strong nitric acid in two of water, where the specimen should be left only so long a time as is sufficient to discharge the color from the slide. This is generally a matter of a few seconds, and the cover should again be washed. The specimen is then allowed to swim upon a solution of vasuvine (or if fuchsin was employed as the first tint, then methyl-blue is used as the contrast). Again, after rinsing, the slide may be placed under a microscope with nothing but water, or it may be dehydrated by alcohol, and then treated with cedar oil to clear it, when it is ready to be mounted in balsam. The balsam must be pure, and free from dilution, especially with chloroform or with oil of cloves, as these discharge the color from the bacilli. The bacilli then appear as small "stæbchen" of the color of the first solution, while the field is tinted with the second color. The best results are undoubtedly obtained by using an "Abbé condensor" and a one-twelfth oil immersion objective.

The importance of the detection of the bacilli of tuberculosis in cases of pulmonary disease, especially in those early stages in which the existing physical signs afford no positive indication of the nature of the lesion, cannot be overestimated. The examination of the sputum in cases of any pathological process affecting the respiratory passages is now a recognized feature of clinical investigation with many of the most eminent practitioners abroad, and should certainly be made an integral part of the instruction of those who are to have the care of the sick. The bacillus now occupies the same position in regard to pulmonary disease that casts hold in relation to disease of the kidneys, or that auscultation and percussion hold to phthisis. This is taught in the medical colleges, but the profession is not yet familiar with it as an element of every day experience in the investigation of clinical conditions. There can no longer be any doubt that it forms a most useful "control" in weighing the value of other clinical phenomena from the aggregate of which a scientific diagnosis is reached. It is true that tubercles may exist in certain cavities which may not communicate with the bronchi, but in the vast majority of cases the expectoration in pulmonary tuberculosis may be said to offer a key to the character of the disease which has produced it.

Upon one point in respect to tubercle there is yet a great deal of confusion, and this is in relation to the estimation of the gravity of the prognosis to be given, from the relative number of bacilli observed. Professor Gaffky has made a table, by which a scale of the relative abundance of the bacilli is shown in a graded frequency from one to ten.

It is desirable that some standard of relative frequency should be adopted for general use in bacillary examinations, and that of Gaffky seems the best one which has yet been proposed.

DR. H. C. ERNST, of Jamaica Plain, stated that he had been an interested listener to the paper of Dr. Cushing, and that while he agreed with the main part of the essay there were some points in which he must differ from the reader. He said that Dr. Cushing has very properly called attention to the fact that it is a necessity that the physician should be able to examine suspected sputum or other material as a regular part of the clinical investigation of disease, at the bedside, or in his own office. The first requisite to successful work in this direction is a microscope adapted to this particular and special kind of investigation. Not every microscope will do this, and to do it well any microscope requires certain particular and unusual accessory apparatus, adapted to procure effects not heretofore considered requisite or desirable. This fact was recently illustrated at a scientific meeting in another State, at which an exhibition of the bacilli of tuberculosis was announced, as a part of the programme. The members had made sections and found bacilli, using the Hartnack microscope without sub-stage illumination as is now thought necessary by means of the Abbé condensor. The president of the Society afterwards brought the specimens to Dr. Ernst for corroborative examination, who failed to detect the bacillus in any of them. The error in observation was due to the fact that crystals were present in the specimens, and these were mistaken for bacilli. These existed in the aniline oil that was used, which had not been previously filtered. The best microscope is not adapted to the examination of bacilli without a sub-stage condensor. This is the "sine qua non" of the study of bacilli. The examination may be a matter on which hangs the life or death of the patient, and should not be undertaken without all the necessary apparatus to insure accuracy of results. The technique of staining may be varied in many ways. The value of this proceeding consists in the fact that the bacillus of tuberculosis retains the color of the staining substance in the presence of nitric acid, while the other parts of the specimen become clear by the discharge of the stain from the action of the acid. . . . The diagnosis in respect to the bacillus tuberculosis depends entirely on the color, and the microscope is the only means of forming a diagnosis. . . . The short method of staining is not reliable, especially in test cases, for it is subject to errors which are avoided in the longer exposure of the suspected material to the coloring agent. By the quicker method, some cases will unavoidably escape detection, which might be an accident of the most tremendous importance to the patient. It is unquestionably better to leave all specimens in the staining fluid for twenty-four hours.

In regard to the preparation of the color-reagents, Dr. Koch told the speaker a short time ago that the watery solution of fuchsin is equally effective with the alcoholic solution, and that is the form in which this color is now used in the laboratory of that distinguished observer. The solution of nitric acid in concentration of one part to two of water is too strong for purposes of decoloration, a suitable action is obtained from a concentration of one part of acid to four

or five of water. If the tint is not all discharged by this treatment, wash the specimen in alcohol until it is clear, and then stain in methyl-blue as a contrast color. These two tints seem to give the best results for general purposes, though some other combinations are excellent for certain special objects. The violet and brown combination is not so easy of study to the average eye as those just mentioned; though to a skilled observer a single bacillus is more clearly defined for purpose of positive and difficult diagnosis.

Dr. Gannett said that he had examined sputa from a patient under the care of Dr. H. I. Bowditch, in which were numerous bacilli, and a very guarded and doubtful prognosis was given, but the patient has since made a perfect and apparently lasting recovery from the tubercular, or at least from the bacillary disease. . . . It is manifestly wrong to draw positive conclusions from the number of bacillary organisms found in the sputum. The examination of the sputum is very important, but it is to be regarded only as another means of judging the patient's condition, and not as a positive and absolute foundation for prognosis.

Dr. Edes asked the number of specimens it is necessary to examine in order to form an accurate diagnosis?

Dr. Ernst said that it might often be necessary to refer difficult cases to an expert in the study of bacilliary organisms. The absence of bacilli under a Hartnack microscope, without substage accessory illumination is not conclusive as to the presence or absence of bacilli.

The chairman asked if Dr. Ernst wishes to be understood as expressing the opinion that the activity of the disease, or its degree of danger and rapidity cannot be accurately judged by the number of bacilli detected in the sputum?

Dr. Ernst replied that this is precisely the opinion he now holds upon this important point. He does not consider it possible to judge the activity of the disease or its extent, or the probabilities for the patient with any degree of certainty from the number of bacilli observed in the expectoration.

Dr. C. E. Wing, of Jamaica Plain, then gave a narrative account of a trip through the greater part of North Carolina during the past summer. He said that the journey took him through the section of country which was the seat of an epidemic of severe character, which raged extensively and was of almost universally fatal character.

The region invaded by the disease is in a section of country near Statesville, and extended far into the surrounding districts. The centre of the epidemic was about one hundred miles from the mountains. The chief symptom was a flux, or as we should say, a profuse and persisting diarrhœa, which exhausted the strength of the patient, and usually resisted all treatment which had been instituted, and generally proved fatal in a very few days. Dr. Wing's observation of the disease commenced by a call to the brother of a prominent citizen of the town, a store-keeper, who was widely known, and had already suffered from dysentery for some weeks at the time of Dr. Wing's first visit. The previous treatment of the case had embraced almost every therapeutic agent known to medical science, and the great wonder to Dr. Wing's mind was, that the patient had survived the treatment, even if the powers of the system had been able to combat the disease.

Throughout this entire district of country, the people have the most implicit belief in the efficacy of turpentine, employed in large doses internally. They take it in large amounts, repeat the dose at frequent intervals, and consider the remedy as applicable to all kinds of maladies. If the turpentine alone is not sufficient to effect a cure, they are accustomed to repeat the same dose, with the added influence of a liberal portion of castor oil. This is also repeated, if the first dose is not followed by an amelioration of the symptoms. The patient to whom Dr. Wing was called had taken this combination every four hours, for some days. Dr. Wing suggested a trial of opium, as the former treatment had not been followed by any good effect. The suggestion was not, however, regarded kindly by the attending physician, who seemed to fear some fatal accident from any change of medication. He stated that if the patient should unfortunately die, the surviving friends would "be down" on the doctor. As all the cases, however, had died up to this time, and this patient also gave unmistakable indications of a gradual tendency to follow the example set by a long list of former respectable patients of the same physician, the change to an anodyne treatment was urged, and finally adopted.

This case recovered, and the extensive circle of friends and acquaintances of the distinguished patient were soon aware that the treatment formerly followed had been changed not only without detriment, but with positively beneficial results. From this time Dr. Wing's services were in constant demand, and he had some difficulty in explaining to importunate patients that he had no desire to practise, and that they must employ their ordinary medical adviser. One man came to implore Dr. Wing's services in the case of his daughter, who said that both turpentine alone, and in combination with castor oil, had been faithfully tried, but with no good result, and the father feared she must die. In this gloomy view Dr. Wing fully coincided, but the father wished that one more effort might be made to save his child's life. At length Dr. Wing gave the father a quantity of tincture of opium and a lump of tannic acid, which had become moistened on the journey was transformed into a solid mass. The treatment was followed by marked improvement, and the father came again after some days, to obtain another "hunk" of that new medicine. From that time, the treatment by tannin and opium was followed in this place, and no more fatal results are known to have occurred. To show how thoughtless the people are in the most essential measures for the care of the sick, the following case was related: Painter John was sick, and Dr. Wing saw him and gave him a "hunk" of the medicine, with careful directions as to a restricted diet. He got no better, and on making inquiries, it was learned that he had taken large quantities of water, string-beans, watermelon, and sheep. There is reason to fear that the old treatment by turpentine and castor oil has been again resumed since Dr. Wing's return.

Great value is placed upon certain indigenous herbs, which are estimated from somewhat different points of view than is customary in other parts. Thus an old and intelligent citizen designated a low plant by its local name, and descanted upon its great usefulness for cattle, assuring his auditors that this plant would surely kill or cure. He had tried it on a calf, and the animal was dead in fifteen minutes, so that he knew the plant possessed rare virtues.

DR. GANNETT asked the character of the urine in the cases treated by turpentine. A case had recently died in the hospital, in which acute nephritis had been caused by the inordinate use of turpentine.

DR. OTIS asked the character of the food, to which Dr. Wing replied that it was simply damnable.

The Secretary exhibited a number of the later additions to the list of synthetical and other drugs, and described in a few words, their most prominent characteristics.

Among those shown were Lanoline, the oily matter found in the fleece-wool of sheep. This is recommended as a valuable basis for ointments, as it seems to possess the property of passing easily through the skin, and thus forms a valuable means of securing the immediate therapeutical effect of the medicinal substance by inunction. Iodol, the reputed rival of iodoform as a disinfectant, said to contain ninety per cent. of iodone, is a grayish powder, but the speaker was unable to express an opinion of its value, as he had not yet employed it. Hypnone, the new hypnotic, obtained by the distillation of the acetate of calcium with the benzoate of calcium, is a limpid fluid, which is said to possess true hypnotic powers, without any unpleasant after-effects. It is probably yet too early to assert definitely what the full effect of this new drug may be. If the first impression in regard to its action should prove to be true, it will form a valuable addition to our resources in anodyne medication. Terebine and terpine are two derivatives obtained by the fractional distillation of turpentine, which are thought to possess a special tendency to relieve inflammatory conditions of the bronchial mucous membranes, as well as to act in the way peculiar to turpentine upon the renal organs. Two samples of iodoform were shown, in which the offensive odor of this valuable disinfectant was quite removed, and the substance rendered acceptable to the most delicate nostril by the addition of four per cent. of koumarin to the iodoform. This combination seems to possess all the disinfectant properties of the iodoform, and is a most acceptable mode of antiseptic dressing or disinfectant application.

DR. REYNOLDS said he was highly pleased to see a preparation of this drug which could be employed without the presence of the unpleasant and penetrating odor of the iodoform. This substance is now recognized as a valuable dressing, but its smell often prevents its use in proper cases.

The Secretary also showed a new "hospital inhaler," for which certain marked advantages are claimed. It is of earthen or pottery ware, and has a capacity of about one liter. The vessel is filled to a certain height with hot water (about 140°), and the medicinal substance is added. These are composed of the various volatile drugs, the vapor of which is inhaled through an appropriate mouth-piece. There is also a thermometer with the instrument, which is kept in a tube communicating with the contents of the vessel, so that the temperature may be kept at a uniform standard. The chief additional recommendation for this form of inhaler is that the temperature is preserved at a high point for a long time, owing to the material of which the instrument is made, and that the inhaler is not attacked by any of the substances which may be employed.

The Section then adjourned to the hall above, where a simple collation had been provided, to which ample justice was done.

Recent Literature.

Practical Human Anatomy; a Working Guide for Students of Medicine and a Ready Reference for Surgeons and Physicians. By FANEUIL D. WEISSE, M.D., Emeritus Professor of Surgery and Surgical Anatomy, Medical Department of the University of the City of New York, etc. New York: Wm. Wood & Co. 1886.

The book before us is evidently the work of an eminently practical anatomist who by long experience knows well what he wants to show and how to show it. The directions for exposing successive layers are admirable in their simplicity. At the beginning of the account of each region the preliminary incisions are shown on wood-cuts. The structures of each layer are concisely described and the descriptions illustrated by full series of excellent plates. Black lines in the plates show where many of the structures should be cut in the progress of the dissection, and full directions are given in special paragraphs. The idea is a good one, and it is well carried out. It seems to us that the regions exposed at once are too large. It is recommended, for instance, to reflect the skin of the chest and upper arm at the same time. It may be that this plan was adopted to avoid doubling the number of plates, already very large, and it will be possible for the student to use the book with profit while working on smaller areas. We are at a loss to see why the posterior aspect of the lower extremity should be dissected in the reverse order, that is to say, beginning with the sole of the foot.

We think the author has, except on one point, shown great discretion in what he has omitted. Superficial attempts at histology mar books intended for the dissecting room. We are glad that the subject is wholly ignored. We agree that the study of the eyeball and of the auditory apparatus does not come within the scope of the work. We agree also that it was wise to omit all applied anatomy, but we feel that the topography of the thoracic and abdominal organs deserves more notice than it has received. The only error that we have observed is the description of the *parieto-occipital* fissure, in which it is taught that it runs on the convexity of the brain from the longitudinal fissure to the inferior border. In fact, though very deep on the median surface, this fissure runs but a very short distance on the convexity, so as often to be hardly recognizable when seen from above. Perhaps the cause of this error is to be found in a similar one in Gray, Fig. 376, page 625, to which, we believe, we have already called attention.

The text is very clear and concise. We must protest, however, against the constantly recurring verb to "section" for which we know no authority, and which is in no way better than "to cut." The plates are 221 in number, almost all drawn from nature, and deserve great praise. The series showing the layers of the perineum is very satisfactory. We congratulate Dr. Weisse on the success of his work, which we believe will be a favorite with students. T. D.

— The Hospital Cottages for children, at Baldwinville, Mass., are to erect a building this spring, for the care and treatment of epileptic children. It is to be completed in June, and will accommodate thirty-five patients.

Medical and Surgical Journal.

THURSDAY, MARCH 25, 1886.

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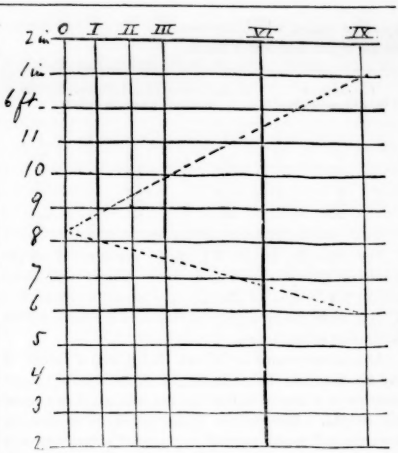
HEREDITARY STATURE.

AT the meeting last Autumn, of the British Association for the advancement of science at Aberdeen, Mr. Francis Galton, the president of the Anthropological Section, based his address upon a portion of the subject of Hereditary Stature. Since that time he has extended his inquiries and reached certain conclusions which he has laid before the Royal Society and which will soon appear in full in its proceedings. Meantime in his presidential address to the Anthropological Institute on January 26, Mr. Galton stated in a more popular form the results of his observation. This address is contained in a recent number of *Nature*.

The problem, while relating primarily to the subject of stature, is, he believes, representative of other and more important qualities. But even when restricted to the field of physical height it is a question of interest. The question substantially is this: given a group of men of the same stature, whatever it may be, required to predict as to their brothers, sons, nephews and grandchildren respectively; *first*, what will be their average height? *secondly*, what percentage of those kinsman will be of stature ranging between any two given figures? But whatever is statistically *certain* in an average based on a large number of cases, is *probable* in any given case. Hence we may judge of the probable average height of the kinsmen in the various degrees just specified of any individual of given height.

The results of a large number of observations carefully corrected have enabled Mr. Galton to give a simple, and as he claims, a complete solution of this problem. This solution is most readily shown by the following diagram, which is drawn on a scale of one-quarter that which he suggests.

The horizontal lines represent feet and inches, the average height of the race being indicated at the point of five feet, eight and one-quarter inches. The vertical lines are drawn, as shown by the numerals at the tops, at one, two, three, six and nine units from the zero line. Now let the height of any given man be marked on the line IX, as for instance, at six feet one



inch, or at five feet six inches. Let a line be drawn from the given point on IX to the normal average point on 0, cutting the other vertical lines. Then will the intersection of that line with VI indicate the probable average height of the brothers of the individual in question. Its intersection with III, the height of his sons; with II, that of his nephews; with I, that of his grandchildren. The same line indicates the stature of the male kinsman in the converse direction. VI, that of brothers, obviously; III, of father; II, of uncles; I, of grandfather.

The *regressive* tendency in all the kinsmen toward the average height of sixty-eight and one-fourth inches is thus vividly shown, the ratio of regression being one-ninth in grandchildren, one-third in children and two-thirds in brothers. It is somewhat remarkable that just this latter ratio also obtains between the "mid-parent" and the son; the "mid-parental" height being an average of two statures: (1) the height of the father, (2) the transmuted height of the mother. We may mention here that it has been found by Mr. Galton that the stature of kinswomen may be transmuted to that of their male equivalents by multiplying the height of the women in inches by 1.08.

The variability above and below the mean is shown by the graphic method as follows:—If the diagram given above be produced in its full scale (one inch between the horizontal lines) the limits of variability in any given case may be shown as follows. A set of four scales is prepared, one for each of the vertical lines. These scales are to be applied on their respective vertical lines both upward and downward from the point of intersection with the movable dotted line and the respective per cents. indicated by the scale of all individuals in the given degree of kinship will fall within the specified number of inches above and below the mean.

The following table shows the divisions on the re-

spective scales, which are accurate except for the extreme upper and lower limits.

Per cents. of included statures.	Divisions upwards and downwards from centre of scales, in inches.		
	VI.	III.	II. & I.
10	0.5	0.6	0.6
20	1.0	1.3	1.3
30	1.6	2.0	2.1
40	2.4	3.0	3.1
45	3.1	3.9	4.0
49.5	4.8	6.1	6.3

For example, in line VI, eighty per cent. of all the brothers (forty above and forty below) will come within 2.4 inches of the average mean, while on line I, (grandchildren) eighty per cent. will come within 3.1 inches of the mean.

As a consequence it follows that, given a father of say six feet five inches in height, there are only seven chances in a thousand that his son will equal or exceed his height. But as the father's height diminishes towards and to the normal average of sixty-eight and one-quarter inches the chance of a son exceeding it increase towards and to a maximum of fifty per cent.

These views are applicable to other inherited traits besides stature. Mr. Galton (as is well known) has believed for a long time that intellectual men select, as a rule, wives of more than average ability, so that the average regression of the son of a gifted man would be less than one-third. Applying this principle to the consideration of a hypothetical problem, namely, the basis of qualification in a proposed hereditary body from which a legislative upper house is to be elected, he suggests that the hereditary qualifications should not be transmitted to an indefinite posterity but should lapse after the grandchildren of the ennobled person; that all the sons and daughters should stand on an equal footing as to the transmission of the hereditary qualifications; that brothers and sisters and the descendants of these should possess the hereditary qualifications, nephews, for instance, being twice as near of kin as grandsons and possessing twice the reversion-ratio of the latter.

THE SIGNING OF PETITIONS.

WE are told that a gentleman in a neighboring State, desiring to illustrate to himself and to others the value of petitions, prepared one for the summary hanging of two individuals and got many signatures to it, including the names of the two persons whose suspension by the neck was asked for. We are quite prepared to believe the story and venture the opinion that the signers were clergymen and doctors.

The Banning petition can hardly have been forgotten in this community, and yet another has appeared on the scene equally unwise, although it is too early to speak of the comparative harm done by the two. The petition in question respectfully suggested and urged upon the Boston Board of Health "the necessity for maintaining the present regulations regarding the admission of old rags." The petition was carried about by the treasurer of a company pecuniarily interested that the present regulations should be maintained, and a prominent lawyer was employed (by whom we know not) to represent the eminent petitioning doctors.

A commission of six expert physicians, appointed by the Board of Health, had unanimously declared against the present regulations, and there was upon the petition a conspicuous absence of the names of those physicians whose opinions would naturally be asked in questions regarding the public health. These points, however, we will pass over for the present. The fact to which we now wish to call attention is that, as we are credibly informed, a large portion of the gentlemen giving the weight of their names to the petition apparently did so because the bearer of it was a gentleman and a good fellow, and did not, at the time of signing it, know what the existing regulations are; or, in other words, these gentlemen did not know for what they were petitioning, and were without the guarantee, in all cases, even as to who the bearer of the petition was — a curious psychological phenomenon which we commend to the notice of the Society for Psychical Research.

SANITATION IN WORKSHOPS AND FACTORIES.

THE increased attention which is being demanded by and paid to the rights of labor at the present time should reasonably be extended to a field of which little is known by the laborers themselves, but wherein important interests are at stake for them, as in some of the more obvious and perhaps more tangible ameliorations of their lot for which they are contending. We refer to protection of those employed in workshops and factories against the neglect or violation of sanitary precautions on the part of the employers. Mr. Gerhard, C. E., of New York, has recently published an article in *Mechanics* in which some of those remediable dangers are referred to. He speaks of the ordinary injurious trades, involving work in poisonous chemical compounds, in extremes of heat and cold, in exposure to dangerous machinery, etc. Here, of course, the danger cannot be wholly removed and men should so understand it. By the appointment of skilled inspectors, however, it can be seen that all available precautions are taken by the employers. Dangerous parts of machinery can be guarded by railings and wire nettings. Workrooms may be inspected with reference to the ventilation, warming, etc. The number and conditions of water-closets and urinals is a matter that will admit of more careful overlooking in many of the large factories, though the foul condition sometimes existing is doubtless due to the carelessness of the workmen themselves. Still, the innocent should not be made to suffer for the hygienic sins of the guilty.

The securing of good drinking water, facilities for

escape in case of fire, precautions against explosions, safeguards in the use of elevators, the protection of surrounding air or water from pollution by noxious chemical vapors or poisons — these and many other subjects would be legitimate work for a hygienic inspector who might be appointed by the State in the interest of the employed, but whom it might also be worth the while of the manufacturer himself to pay, as a measure of self interest as well as of humanity.

MEDICAL NOTES.

— The *Therapeutic Gazette*, speaking of the proper spelling of antipyrin, says that as an alkaloid it deserves the termination "ine," but on the other hand, as an acid that termination is repulsive to its nature. In this dilemma, it favors following the authority of its discoverer, who when he patented it, named it antipyrin. A parent surely has a right to the naming of his child. The German journals as a rule, spell it without the e, but most of the English and American add the final letter.

— The Duchess of Connaught, who on a former occasion was confined at Bagshot Park, experienced symptoms of septic poisoning which caused her medical attendants considerable anxiety and induced them to have her removed very soon after the confinement to Winsor castle, the risk of transportation being considered less than that of remaining at Bagshot. A subsequent examination showed the drains of the latter house to be defective. In spite of a careful repair of these drains it has been decided to have her go again to Windsor to undergo an approaching confinement.

— Dr. H. C. Wood, in a recent clinical lecture on monomania, speaking of the relation between genius and this form of insanity, says: "One of the best examples of the relation between great imaginative power and monomania is John Bunyan, the author of 'The Pilgrim's Progress,' which, according to any standard that we have a right to set up, is one of the five or six greatest books in the English language. It is certainly more read than any other book, with the exception of the Bible. No one who reads the history of Bunyan's life can doubt for a moment that he suffered from monomania with depressing delusions. He, however, finally recovered."

— M. Bedoin stated to the Belgian Royal Academy of Medicine, according to the *London Medical Record*, that he believes he has found a simple, portable, inexpensive, antiseptic method of dressing wounds suitable for the wounded on battle-fields. He recommends the unglazed paper used for filtration. This is disinfected by being placed on a stove at 120° C. (248 F.), and immediately afterwards steeped in an antiseptic substance, then slowly dried. Seven or eight sheets of the filter paper are superposed on the surface of the wound, and then lightly bandaged. This dressing weighs about forty grammes, so that every soldier can carry one in his knapsack.

— The Philadelphia Polyclinic and College for Graduates in Medicine has established a hospital for operative and other cases at the College building, Broad and Lombard Streets, Philadelphia. A number of ward patients have already been treated in the new hospital.

— The *Medical Press and Circular* gives, on the authority of a private letter from Port Elizabeth, an account of a man, who, while bathing from off a pier projecting eight hundred yards into the sea, had his leg bitten off by a shark just below the knee, but who apparently lost hardly a drop of blood in the terrible struggle that took place. The laceration caused by the jagged teeth and the hæmostatic action of the salt water, are referred to as causes of the slight hæmorrhage. Amputation above the knee was forthwith performed, and a good result obtained.

— Dr. W. Thornton Parker, of Newport, R. I., from his experience on the Western prairies, considers the bite of the skunk more to be dreaded than that of the rattlesnake. He says hydrophobia exists to a considerable extent among these pests. He has known several cases where the skunk has invaded tents and corn-houses, and inflicted bites not always in anger, but in searching for food, and thus gnawing the hands or face of sleepers. He does not say that under the latter circumstances hydrophobia is communicated, but says there is a general impression that the skunk's bite is dangerous, and believes that the danger is usually from hydrophobia.

— An old member of the medical profession in Chicago tells the *News*, of that city, a story which he says, Dr. J. Adams Allen told him many years ago. Dr. Allen, as the story goes, was just beginning his practice when, one winter day, seated in a car, muffled to the ears, he overheard the following conversation between two passengers who were sitting where they could not see his face — "Say, George," said one, "what kind of a doctor is this young Allen?" "All I know about him is that he snatched my aunt from the grave last summer, that is, I shall always think he did." "Did he, indeed?" said the other; "well, he must be a pretty good doctor then. What was the matter with your aunt?" "Oh, she was dead and buried, you know."

— As to just what sort of a surgical operation has recently been performed on Lieutenant Greely, of Arctic fame, we are in ignorance, but whatever it was, he is much more to be pitied for having to undergo it in the daily papers than upon the operating table. We are told that he "has had the nerves at the base of the spine severed, and the flesh and muscles separated — a severe surgical operation." Any operation which involves the separation of the flesh and muscles must indeed be severe; and to one who has suffered this radical dissection, the "searing of the spine with a red-hot iron, similar to the operation which —— —— underwent in Paris a few years ago," and which appeals to the reportorial mind as the acme of horror, must appear as really a rather tame proceeding.

— A correspondent of the *Medical and Surgical Reporter*, writing apropos of a paper read at the late meeting of the New York Medical Society, by Dr. Hamlin, of Auburn, on "Emission of Semen as a Means of Diagnosis of Death by Hanging," says that he has had opportunity of verifying Dr. Hamlin's observations. At Fort Smith, Ark., there are hung annually, a dozen or more criminals, and in every instance there has been emission. The late Dr. J. E. Bennett called attention to it in 1880, and the writer's observations extend from that to the present. Dr. Bennett, who was United States jail physician at that time, and many years previously, said that he never knew a case of hanging in which the emission was not present, and as a means of diagnosis of death, it was certain.

— If contributors who sometimes, and not without reason, feel aggrieved at the occasional typographical errors in their articles which will contrive to elude observation, could see some of the threatened disasters of that nature from which they are mercifully delivered, their feelings would be merged in one of deep thanksgiving. For instance, a gentleman held in the highest esteem by his contemporaries, professional and social, made the remark before a medical society, that "he had himself at one time considered cirrhosis the usual result of excessive alcoholic indulgence," which was printed "he had himself, at one time, considerable cirrhosis, the usual result," etc. Equally narrow was the escape of the gentleman whose remarks on the "Etiology of Rabies" were in the proof perverted to the Etiology of "Babies."

BOSTON.

— The Bill for separating the Massachusetts Board of Health from Lunacy and Charity has become a law.

— Governor Robinson has also signed the bill prohibiting the sale or gift of tobacco to boys under the age of sixteen.

— The health of the "flooded district" is not injuriously affected. The number of cases of typhoid fever reported from this locality since January is four — not more than last year, and the health of the entire city is as good as at the corresponding time last year.

— Mrs. Clara T. Leonard, of Springfield, who was appointed to the State Board of Health, Lunacy and Charity by Governor Long in 1880, and has served ever since, has sent in her resignation to the Governor, on account of ill health. Her term of service would regularly have expired June 7, 1890.

— Within the last fortnight, two hearings have been held by the Committee on Health of the City Government, on a petition by the paper manufacturers for the abrogation of the present requirement of the local Board of Health for the disinfection of rags brought to this port. The contract for disinfection is held by the Boston Disinfecting Company, which charges five dollars per ton for fumigating the rags. This expense, and the trouble otherwise caused by the regulation has, the petitioners claim, led manufacturers to land most of their rags at other ports where consular certificates from the ports of shipment are accepted as evidence of the safety of the rags.

— An evening dispensary at St. Andrew's Church, 27 Chambers Street, has been established under the charitable auspices of Trinity Church, for the benefit of the many workingwomen who, reluctant to lose their half-day's pay, or to incur the displeasure of their employer by absence, neglect their health and become seriously ill, when the advice of a physician might save them many days of suffering. It is under the charge of two female physicians, both members of the Massachusetts Medical Society, and earnestly interested in the welfare of working girls. At present, the Dispensary is to be open Tuesday and Friday evenings, and it is thought that other evenings may be required to be added later.

NEW YORK.

— Two brothers, candy dealers on Chambers Street, have each been fined $100 for selling "rock and rye" drops, which on analysis by Prof. Elwin Waller, of the Health Board, were found to contain fusel oil.

The Trustees of the College of the City of New York have appointed William Stratford, M.D., Ph.D., to the chair of Professor of Natural History, Physiology and Hygiene, made vacant by the death of the late Dr. John C. Draper.

— The twenty-fifth annual commencement of Bellevue Hospital Medical College was held on the evening of March 15th, in the Carnegie Laboratory, which was elaborately draped in mourning in consequence of the death of Professor Austin Flint. The degree of M.D., was conferred upon one hundred and thirty-nine graduates, by the president, Dr. Isaac E. Taylor, and the address to the class was made by Dr. John C. Dalton, President of the College of Physicians and Surgeons, who in it paid a most touching and eloquent tribute to the memory of Dr. Flint.

— The funeral services of Dr. Vanderpoel were held at his late residence in 39th Street on the afternoon of March 15th, and was largely attended by the profession. Among the pall-bearers were Drs. Alfred L. Loomis, C. R. Agnew, John C. Dalton, Fordyce Barker, C. F. Chandler, D. B. St. John Roosa, and Albert Vander Veer, of Albany. On the morning of the funeral a special meeting of the Charity Organization Society, for the formulating of whose constitution Dr. Vanderpoel was one of the citizens selected by the State Board of Charities, was held for the purpose of taking action in regard to his death.

— The funeral of Dr. Flint was held on Tuesday, March 16th, at Christ Church, in which gathered an immense number of physicians, including all the most noted men of the profession in New York, as well as a number from various other cities. The services were very simple, and there were no pall-bearers. On Sunday, the day following his death, special meetings of

the Faculty of Bellevue College and of the Executive Committee of the New York County Medical Association were held, at which appropriate resolutions in regard to the sad event were adopted. At the meeting of the Academy of Medicine held March 18th, the President, Dr. A. Jacobi, announced that he would himself claim the privilege of pronouncing before the Academy the eulogy of his illustrious predecessor in the office.

—The Hospital Saturday and Sunday Association met in the Mayor's office on March 18th, and made the following distribution of the undesignated contributions received in aid of the institutions belonging to the Association :—

Mount Sinai Hospital	$5,013.80
St. Luke's Hospital	3,693.26
Society for the Relief of the Ruptured and Crippled	3,586.86
German Hospital	3,385.87
Presbyterian Hospital	1,659.82
St. Mary's Free Hospital for Children	1,283.49
Woman's Hospital of the State of New York	1,208.01
House of Rest for Consumptives	1,072 27
Home for Incurables	1,035 64
Home of the Holy Comforter	1,051.47
New York Infirmary for Women and Children	843.75
New York Orthopædic Hospital	770.26
New York Eye and Ear Infirmary	775.34
French Hospital	755 76
Hahnemann Hospital	659.98
Manhattan Eye and Ear Hospital	611.78
New York Ophthalmic Institute	636.82
New York College and Hospital for Women	537.34
Ophthalmic and Aural Institution	499.53
New York Skin and Cancer Hospital	496 03
Home for Convalescents	425.09

Miscellany.

A CASE OF PERFORATING ULCER OF THE STOMACH, OPENING INTO THE LEFT VENTRICLE OF THE HEART, AND CAUSING DEATH BY HÆMORRHAGE.

At the meeting of the Pathological Section of the Academy of Medicine, reported in the *Medical Press and Circular* (March 3, 1886), Dr. Finny exhibited an extremely rare specimen of an oval ulcer (1 by ½ in.) of the stomach, situated on its anterior wall two and a half inches from the cardiac, and two from the lesser curvature, leading up to and perforating the heart. The floor of the ulcer was the muscular structure of the under surface of the left ventricle, about one inch from the apex; and the ulcer, after perforating the stomach, had eaten through the diaphragm and the pericardium. The stomach was adherent to the diaphragm through the ulcer, but the adhesions were very slight, and of recent date. The pericardial sac had been obliterated by adhesive inflammation, and over the whole of the left ventricle the adhesions were very dense. Through the larger of several interstices, between the exposed muscular tissue of the apex, a probe could be passed upwards, and was found to enter the left ventricle behind a musculus papillaris attached to the posterior mitral curtain. The patient from whom the morbid specimen was removed had died of syncope on December 9th, 1885, preceded by the passage of blood from the bowels. Strange to say, there was no hæmatemesis. At the autopsy, the stomach and the whole intestinal canal were found full of liquid blood, and the stomach alone contained two quarts. The source of the blood was the left ventricle, and it is probable the blood escaped into the stomach during both systole and diastole.

The clinical history of the patient was as follows :—

A farm laborer, aged nineteen, was admitted, under Dr. Finny's care, into Sir Patrick Dun's Hospital, at the end of October, 1885, suffering from articular rheumatism of a subacute type, of a month's duration, and presenting the signs of pericarditis in the stage of lymph-exudation. In a few days the friction disappeared, while there was no subsequent effusion, and all the other symptoms of rheumatism passed away. There were no symptoms pointing to disease of the stomach, with the exception of pain referable to the sixth rib, about the usual seat of cardiac impulse, and which was also referred to the right coracoid process. This pain was stated to have been present, off and on, for nearly five years, to be of an intermitting nature, and at times of great severity. During the patient's stay in hospital there were about four such exacerbations, which required morphia for their relief. This pain was never felt in the epigastrium or back; was not induced or relieved by the introduction of food or change of posture, nor did it bring on any nausea or vomiting. From this latter symptom he never suffered, and even during the fatal bleeding there was no hæmatemesis. For seven days before death the pain had greatly abated. During the night of December 8–9, the patient had but little sleep, and in the morning, about 8 A.M., he passed blood from the bowels, and very soon after died in syncope.

The autopsy revealed the conditions described above.

The fatal steps in the pathological history of the case were: 1st, Ulcer of the stomach of unknown duration; 2d, Rheumatic pericarditis and adhesions of the left ventricle to the diaphragm, with obliteration of the sac; 3d, Recent activity in the ulcer, perforating into the muscle of the heart.

The general muscular structure of the heart under the microscope was perfectly normal, and free from fatty degeneration, except the fibres at the floor of the perforation, which were granular and broken down, though free from all fat.

Dr. Finny referred to the anatomical relations of the liver and stomach to the diaphragm, and stated, by observations made, that while, in the majority of instances, the liver, by its left lobe, entirely separates the stomach from the portion of the diaphragm to which the pericardium is applied, there are exceptional specimens where the left lobe of the liver is small and pointed, where a small triangular portion of the extreme front of the pericardial aspect exactly corresponds to the anterior wall of the stomach in the very position of the ulcer present in this case. This he further illustrated by reference to Braune's topographical plate taken from the frozen subject. Dr. Finny pointed out the extreme rarity of such cases, and when he first discovered its peculiar features, he thought it was unique inasmuch as no such specimen was to be found in the pathological museums of Dublin or London, and no record of such a case was to be met with in the Pathological Transactions, or in any of the books devoted to the subject of gastric ulcer, nor could he obtain any reference to any reported instance in the medical literature of Great Britain and Ireland.

Further research, however, showed him that it was not unique, as there are three similar cases recorded in Vienna — the first by H. Chiari in 1880, the second by F. Brenner, and the third by Oser in 1881; and each of these latter observers seemed to have been unaware of the other reported cases. He thought the fact of a chamber having been formed between the heart and the pericardium showed that probably a gastric ulcer first formed the abscess, and that it opened from the stomach, forming a smaller one underneath the diaphragm, and from thence reached the pericardium. Having regard to the slight character of the adhesion between the outer surface of the stomach and the diaphragm, he did not think that the passing of the ulcer through the diaphragm could have set up such a pericarditis as was found in the case. He thought that pericarditis was due to a rheumatic attack, which had preceded the perforation of the diaphragm by the ulcer from the stomach. Nor did he see any difficulty about the solution of the muscles of the heart by the gastric juice.

The base of the ulcer and the muscular tissue of the heart were turned into a granular *débris*, which was the result of the solution. The rest of the heart was perfectly healthy, and showed no sign of fatty degeneration whatever. Nor did he see why the heart should not have suffered from the action of the gastric juice, when they saw that the tendinous portion of the diaphragm, which opposed the progress of the ulcer, was dissolved by the gastric juice at the floor of the ulcer. Having thus gone through the diaphragm, which was of its full thickness, the gastric juice might have acted in a similar way on the muscular tissue of the heart.

RESOLUTIONS OF THE MEDICAL BOARD OF THE MASSACHUSETTS GENERAL HOSPITAL IN MEMORY OF DR. J. H. WHITTEMORE, THE LATE SUPERINTENDENT.

AT the annual meeting of the Medical Board of the Massachusetts General Hospital, the following resolutions of respect to the memory of Dr. Whittemore, the late Superintendent, were passed:

This, our annual meeting, the first meeting of the Medical Board of the Hospital since the death of Dr. James Henry Whittemore, Resident Physician and Superintendent, affords us the first opportunity of placing upon our records a tribute to his memory, in the expression of the high appreciation of the distinguished services he rendered to the Hospital, and all the varied interests committed to his charge.

He was pre-eminently a representative of the dignity, the honor, and the magnitude of so great and so charitable a trust; he brought to bear upon the executive department of this institution, sound methods, ripened judgment, and a keen, clear insight, and applied to the complex questions of immediate necessities, and prospective and more remote requirements, the happiest combinations of foresight and wisdom.

To him, especially, the Hospital owes its great reputation in this community as an effective power, working for the good of the deserving poor; and to him, more than to any other, its widespread name as the representative of the American hospital system.

Men rarely demonstrate as he did, daily in our sight, the inflexible will and the superb qualities, which enable a man to do his whole duty, so long as life lasts. Maimed and helpless, racked and torn by pain, he completed the task he had assigned himself, and dying, left no unfinished work. He needs no eulogy, for of him, also, it may justly be spoken:—"*Si monumentum quæris circumspice.*"

To the Staff and to the individual member he sustained a nearer relationship. He was our friend. The lines governing his conduct were firmly fixed, and led straight to a constant goal — duty; but no path was so well-worn, or bore such marks of his frequent footsteps, as that which led to the altar of friendship; its fires never smouldered, but burned brightly, fed by many and fresh sacrifices; for, "he who will have shown himself in all cases as regards friendship, worthy, constant, and steadfast, such a one we ought to esteem of a class of persons extremely rare — nay, almost God-like." Unswerving fidelity to duty and to friendship were his distinguishing traits.

THE PREVENTION OF MAMMARY ABSCESS.

IN a recent number of the *Therapeutic Gazette*, reference was made to the method of prevention of mammary abscess recommended by Dr. Edis, by the use of support by means of a bandage or towel. Dr. Edis appears to have used this method after every delivery, and, by beginning it before lactation was established, with assured success. Occasionally, however, one is called to cases where abscess is on the point of forming, either from neglect or injudicious treatment, and where, consequently, something more is required. Under such circumstances, Mr. Philip Miall (*British Medical Journal*, November 21, 1885,) states that he has repeatedly seen all the symptoms of a hot, heavy, inflamed breast, with redness of skin, throbbing and deep-seated pain, pulse being one hundred and twenty in the minute, all disappear in the course of a few hours under fomentation of hot water and ammonia. An ounce of carbonate of ammonia is dissolved in a pint of boiling water, and when solution is affected the temperature will scarcely be too high for fomentation with cloths dipped in the liquid. These must be assiduously applied for half an hour at least, and repeated for two or three hours if necessary. It is well to protect the nipples, though Mr. Miall states that he has never known them to be injured. Relief is immediate, and more than three applications are seldom required. According to Mr. Miall, unless applied too late or improperly, or some foolish rubbing or drawing with the breast-pump be used, this remedy may be thoroughly relied upon.

OBITUARY. AUSTIN FLINT, M.D.

DR. AUSTIN FLINT whose sudden death on the 13th inst. from apoplexy, has already been announced to our readers, was descended from an eminent medical ancestry. First in the distinguished line was Dr. Edward Flint, his great-grandfather, a physician of note in Shrewsbury, Mass.; then came Dr. Austin Flint, of Leicester, the grandfather, who was a surgeon in the Revolutionary Army; then the father, Dr. Joseph Henshaw Flint, one of the most noted physicians and surgeons that the Connecticut Valley has ever had. Dr. Austin Flint was born at Petersham in Worcester County, October 20, 1812. He studied at Amherst and Harvard, and was graduated from the University Medical School in 1833. He practised at Northampton for a time, then in Boston, and in 1836 went to Buffalo, where he was settled until 1844; he was then called to a professorship in the Rush Medical College at Chicago, which he filled for a year, returning to Buffalo, where he established the *Medical Journal*, which he continued for ten years; he was one of the founders

of the Buffalo Medical College, where he was professor until 1852; for four years thereafter he was professor in the Louisville University, and then returned to another professorship at Buffalo; for three winters from 1859 he was professor of clinical medicine in the medical school at New Orleans. In 1861 Dr. Flint made his home in New York city, where he became one of the physicians to Bellevue Hospital, and was appointed to two professorships — the principles and practice of medicine and clinical medicine at Bellevue, and pathology and practical medicine at the Long Island College Hospital. From the latter institution other duties forced him to sever his connection in 1868. In 1876 he was a delegate to the International Medical Congress at Philadelphia, where he delivered a notable address on "Medicine." During the past winter he received an invitation to deliver an address on the same subject at the coming meeting of the British Medical Association. This honor he had accepted. He attended the Congress at London in 1881 and at Copenhagen in 1884, and had been chosen president of the next Congress, to be held at Washington in 1887.

He was president of the New York Academy of Medicine in 1872 and of the American Medical Association in 1884. He was also a member of a very large number of learned societies in this country and Europe.

As an author Dr. Flint attained perhaps his widest fame. His "Treatise upon the Principles and Practice of Medicine," published in 1866, ran through seven editions. He was engaged during the past winter in revising it for another edition. The sales of this book are said to have reached nearly 40,000 copies. A work on "Clinical Study on Heart Sounds in Health and Disease," which he wrote in 1852, received the first prizes of the American Medical Association in 1852 and 1859. His work on "Phthisis," and his "Manual of Percussion, etc.," have long been standard works.

A strong constitution and perfect health had enabled Dr. Flint to keep up his active labors as teacher, writer, and practitioner to the last days of his life. The fact that his selection as president of the Medical Congress of 1887 had proved acceptable to both parties in the controversy, may make his removal another bar to the success of that undertaking — already so beset with difficulties.

Correspondence.

CO-EXISTENCE OF SCARLET-FEVER AND MEASLES.

WINDHAM, ME., March 22, 1886.

MR. EDITOR, — The case of "Co-existence of Scarlet-fever and Measles," reported in the JOURNAL of 11th inst., by Francis F. Brown, M.D., reminds me of a similar case occurring in my own practice, in the year 1875, during quite an epidemic of these eruptive fevers.

Jennie B., aged seven years, had suffered for several days before I saw her, from the usual precursory symptoms of measles, and at the time of my visit, the eruption had made its appearance on the face and chest. It was well-marked, and there was no mistaking the nature of the disease. At my next visit, twenty-four hours later, an entirely new state of affairs existed. Instead of measles, we had before us a typical case of scarlet-fever with all the accompanying symptoms.

Unlike Dr. Brown's case, the eruption of measles had disappeared, save a trace on the forehead, and a bright scarlet rash covered the entire body with all the characteristic symptoms of scarlet-fever, which continued for five or six days, and on its disappearance, the eruption of measles returned, and having had "one day out" it began to fade from the face on the third day, instead of the fourth, as is the rule. Convalescence was slow but the patient made a good recovery.

There can be no doubt as to the co-existence of the two diseases in this case, and although the measles got the start of the scarlet-fever in point of time, yet in point of intensity, the scarlatina had the better of its antagonist.

Very truly yours, B. F. DUNN, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING MARCH 13, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrh'al Diseases.	Diphtheria and Croup.	Whooping Cough.
New York	1,340,114	776	290	15.87	16.64	.90	8.19	2.43
Philadelphia	927,985	377	138	15.12	15.39	.81	5.13	1.08
Brooklyn	644,526	—	—	—	—	—	—	—
Chicago	632,100	—	—	—	—	—	—	—
Boston	390,406	169	55	11.21	17.11	1.77	5.31	.59
St. Louis	408,520	—	—	—	—	—	—	—
Baltimore	400,000	145	48	1.40	19.60	—	1.40	—
Cincinnati	272,400	113	33	21.12	14.08	3.52	5.24	1.76
New Orleans	234,000	135	33	8.88	14.80	2.22	2.22	—
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	—	—	—	—	—	—	—
Pittsburgh	180,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	—	—	—	—	—	—	—
New Haven	62,882	—	—	—	—	—	—	—
Nashville	54,400	23	6	8.70	13.05	—	4.35	4.35
Charleston	52,286	16	4	25.00	18.75	—	6.25	—
Worcester	68,383	18	9	11.11	11.11	—	5.55	—
Lowell	64,051	38	13	26.32	7.89	2.63	13.15	2.63
Cambridge	59,660	25	6	12.00	8.00	—	8.00	—
Fall River	56,863	20	7	10.00	5.00	—	5.00	5.00
Lynn	45,861	8	1	25.00	50.00	—	—	12.50
Lawrence	38,825	20	—	5.00	30.00	—	—	—
Springfield	37,577	14	2	14.56	7.28	—	7.28	—
New Bedford	33,393	18	6	5.55	16.66	5.55	—	—
Somerville	29,922	—	—	—	—	—	—	—
Salem	28,084	11	3	9.09	—	—	9.09	—
Holyoke	27,894	—	—	—	—	—	—	—
Chelsea	25,709	12	1	8.33	25.00	—	8.33	—
Taunton	23,674	9	3	22.22	33.33	—	11.11	11.11
Haverhill	21,795	8	4	50.00	—	25.00	25.00	—
Gloucester	21,713	8	4	—	12.50	—	—	—
Brockton	20,783	9	2	—	11.11	—	—	—
Newton	19,759	6	0	16.66	16.66	—	—	—
Malden	16,407	—	0	—	—	—	—	—
Fitchburg	15,375	5	2	20.00	40.00	—	—	—
Waltham	14,609	2	0	50.00	—	—	—	—
Newburyport	13,716	3	0	66.66	—	—	33.33	—
Northampton	12,896	3	0	—	—	—	—	—
Massachusetts Towns	—	—	—	—	—	—	—	—

Deaths reported 2,024: under five years of age 682; principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 276, consumption 327, lung diseases 306, diphtheria and croup 121, whooping-cough 31, diarrhœal diseases 24, typhoid fever 27, cerebro-spinal meningitis 18, scarlet fever 26, malarial fever 13, erysipelas ten, puerperal fever two, small-pox two, typhoid fever one. From typhoid fever, Philadelphia nine, New York and Cincinnati six each, Lowell two, Boston, Cambridge, Lynn and Lawrence one each. From scarlet fever, Philadelphia 12, New York seven, Cincinnati four, Boston, Lowell, and Newburyport one each. From cerebro-spinal meningitis, Philadelphia six, New York four, New Orleans three, Boston, Cincinnati, Worcester, Fitchburg, and Waltham one each. From malarial fevers, New York nine, New Orleans two, Philadelphia and Nashville one each. From erysipelas, New York five, Boston two, Philadelphia, Cincinnati and Springfield one each. From puerperal fever, Philadelphia and Boston one each. From small-pox, New York two. From typhus fever, New Orleans one.

In 111 cities and towns of Massachusetts, with a population of 1,376,736 (population of the State 1,941,465), the total death-rate for the week was 17.41 against 17.35 and 14.83 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending February 27th the death-rate was 24.2. Deaths reported 4,217: infants under one year of age 932; acute diseases of the respiratory organs (London) 647, whooping-cough 161, measles 91, scarlet fever 34, diphtheria 33, fever 33, diarrhœa 32, small-pox (Liverpool) one.

The death-rates ranged from 13.1 in Derby to 30.5 in Blackburn; Birmingham 21.7; Bradford 18.1; Hull 19.6; Leeds 25.5; Leicester 17.9; Liverpool 22.6; London 25.0; Manchester 28.9; Nottingham 26.6; Sheffield 22.1; Sunderland 22.1.

In Dublin 30.4.

For the week ending February 27th in the Swiss towns, there were 34 deaths from lung diseases, consumption 33, small-pox seven, whooping-cough five, measles, scarlet fever and typhoid fever each three, puerperal fever two, diphtheria and croup one.

The death-rates were: at Zurich 24.8; Geneva 20.2; Basle 15.5; Berne 26.7.

The meteorological record for week ending March 13, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps. —

Week ending	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
Saturday, Mar. 13, 1886.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,... 7	29.938	27.1	34.7	20.9	61.0	52.0	57.0	56.7	N.W.	N.W.	N.W.	12	22	4	C.	C.	C.	—	—
Monday,.. 8	29.843	30.5	38.4	22.4	51.0	73.0	93.0	72.3	S.E.	E.	S.	2	13	8	O.	O.	N.	—	—
Tuesday,.. 9	29.838	24.6	34.2	17.2	93.0	73.0	71.0	79.0	N.	N.	N.	18	17	8	N.	O.	C.	—	—
Wednes.,..10	29.951	27.6	36.3	16.9	57.0	63.0	53.0	57.7	N.	N.	W.	11	3	9	O.	C.	C.	—	—
Thursday, 11	29.926	36.1	46.4	22.4	52.0	24.0	42.0	39.3	N.W.	W.	S.W.	10	20	12	C.	C.	C.	—	—
Friday,...12	29.540	40.2	46.5	34.8	46.0	50.0	84.0	60.0	S.W.	S.W.	S.W.	10	17	14	O.	T.	C.	—	—
Saturday,.13	29.307	38.6	45.0	34.1	88.0	81.0	85.0	84.7	S.W.	N.W.	W.	4	7	1	O.	R.	C.	28	.33
Mean, the Week.	29.763	32.1	39.9	24.1				64.2											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MARCH 13, 1886, TO MARCH 19, 1886.

HOFF, JNO. VAN R., captain and assistant surgeon. Ordered from Department California to Department Missouri. S. O. 60, A. G. O., March 15, 1886.

ROBERTSON, R. L., first lieutenant and assistant surgeon. Granted leave of absence for one month. (Fort Ringgold, Tex.) S. O. 29, Department Texas, March 8, 1886.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE FOR THE THREE WEEKS ENDING MARCH 13, 1886.

BENSON, J. A., passed assistant surgeon. Resignation accepted to take effect April 6, 1886, and leave of absence granted until that time, March 10, 1886.

CIRCULAR. REVOKING REGULATIONS ISSUED OCTOBER 1885, FOR THE MAINTENANCE OF QUARANTINE INSPECTIONS ON THE NORTHERN FRONTIER OF THE UNITED STATES.

TREASURY DEPARTMENT,
OFFICE SUPERVISING SURGEON-GENERAL,
U. S. MARINE-HOSPITAL SERVICE,
WASHINGTON, D.C., MARCH 17, 1886.

To the Medical Officers of the Marine-Hospital Service, Customs Officers, and others concerned:

Official information having been received that the small-pox which recently prevailed as an epidemic in certain provinces of the Dominion of Canada, is now under control; therefore the Regulations issued October 10, 1885, for the maintenance of quarantine inspections on the northern frontier of the United States, are hereby revoked.

JOHN B. HAMILTON,
Supervising Surgeon General.

DEATH.

Died in Roslindale, Mass., March 19, 1886, Robert Mendum Otis, M.D., M.M.S.S., aged forty-two years.

SOCIETY NOTICE.

NORFOLK DISTRICT MEDICAL SOCIETY.—A meeting for Scientific Improvement will be held at Room 7, Palladio-Hall Building, corner of Warren and Dudley Streets, Roxbury, March 30th, at 7.45 P.M. Communications: I. "A Case of Gangrene of the Lung," C. E. Stedman, M.D. The discussion will be opened by Jos. H. Streeter, M.D. II. "The Treatment of Synovitis by Aspiration and Martin's Bandage," E. P. Gerry, M.D. The discussion will be opened by Chas. F. Withington, M.D. Members of other Districts are invited to be present and participate in the discussions. S. ALLEN POTTER, M.D., *Secretary.*

APPOINTMENT.

Dr. Frederick C. Shattuck has been appointed Visiting Physician to the Massachusetts General Hospital.

BOOKS AND PAMPHLETS RECEIVED.

Official Register of Physicians and Midwives now in Practice to whom Certificates have been issued by the late Board of Health of Illinois, 1877–1886. Springfield, Ill.: State Printers. 1886.

Results of Enquiries conducted by the Health Department of the State Board of Health, Lunacy and Charity, relative to the Quality of Milk as produced in Massachusetts. State Printers. 1886.

Western Reserve Medical Department, Cleveland, Ohio. Announcement. 1886–87.

What is Medicine? Annual Address delivered before the American Academy of Medicine at New York, October 28, 1885. By Albert L. Gihon, A.M., M.D., Medical Director of the United States Navy, President of the Academy.

Note-Book for Cases of Ovarian and other Abdominal Tumors. Adapted from the Note-Books of Sir Spencer Wells and the Sanitarian Hospital, London. By John Homans, M.D., Clinical Instructor in Harvard College on the Diagnosis and Treatment of Ovarian Tumors. Cupples, Upham & Co., Publishers, Boston.

Twenty-first Annual Report of the Cincinnati Hospital to the Mayor of Cincinnati. For the Fiscal Year ending Dec. 31, 1885. H. M. Jones, Superintendent, 1886.

Original Articles.

A MEDIASTINAL TUMOR.

BY E. N. WHITTIER, M.D.
Visiting Physician Massachusetts General Hospital.

The condition of a patient recently under observation has suggested the topic of this paper: for the case illustrates the distinguishing features of the disease, in the obscurity of the earlier symptoms, and the etiology; later, in the evidences of rapid growth shown by external signs, and by local mechanical interference with the functions of the thoracic organs, and at last, in the conclusive proofs of extreme malignancy.

A man, forty-three years of age, of good family history, free from taint, without signs or history of rheumatism, alcoholism, syphilis, or Bright's disease; by occupation a teamster, and by this subjected to much exposure and heavy exertion, had complained for two months of attacks of difficulty in breathing: attacks of such severity, and so wholly without warning or assignable cause, that he had given up work of late. Even slight changes of position in bed, from lateral to dorsal decubitus, seemed to cause dyspnœa, and exertion of any kind was rendered difficult, and dreaded, by reason of suffocative attacks.

Further questioning brought out the fact of some obscure intra-thoracic disturbance eight years ago, disabling him for two months, and said by his physician to have been caused by some over-exertion in lifting; this, the patient insisted, had been fully recovered from, and never since, the source of any trouble whatever.

Paroxysms of coughing had been frequent of late, and an expectoration, at first mucous, white, and frothy, had become thinner, watery, and sometimes tinged with blood. Pain has not been a source of complaint, nor had there been palpitation nor the usual rational signs of cardiac disturbance; the voice had been unchanged, and there had been no swelling of extremities.

When first seen, three weeks previous to my later observations, the following additional facts were the only ones obtainable: At times, the face, and particularly its right side and the right side of the neck, seemed to enlarge, and he grew livid, dusky, and even purple; the veins were ready to burst, and his hands and feet, in fact, his whole body would be cold and wet, with clammy moisture, and there was great laboring for air, and constant expressions of apprehensions of impending death.

The physical signs in part corroborated his statements, and in addition, there was found swelling and slight œdema above the clavicles, and increased resistance to palpation, with irregularities on deep pressure, suggesting glandular enlargements. There was less expansion above and below the left clavicle than in corresponding regions on the right side during inspiration, and at the junction of the third or left costal cartilage with the sternum, a limited elevation of the surface could be seen, which transmitted to the fingers a rise and fall, synchronous with the radial pulse; well-marked dulness was found in the elevation and across the median line of the sternum, and from the left apex down to the third intercostal space; while the respiratory sounds were greatly diminished, and modified in the direction of broncho-vesicular, with some exaggeration of voice-sounds. Fine, moist râles were abundant in the remaining portion of both lungs; most marked posteriorly, but there was no pleural effusion on either side. The tumor communicated no thrill, nor was there evidence of lateral expansion, but the left radial was less than the right in force. The pupils were equal. Pulse 104, small, but regular; respiration 36 per minute. No abnormal condition other than these as described, were found.

There were good reasons for the two, and somewhat diverse opinions reached by the attending and consulting physicians at this date. The family physician, weighted with the obscurity of the earlier symptoms, assigning large influence to occupation, and previous history of traumatism, or over-strain, had given an opinion of aneurismal tumor. The consultant, examining without knowledge of this opinion, and without the fatigue and prejudice associated with the tedious uncertainty of the two preceding months, based his opinion largely upon the physical signs, and less upon the possible diagnostic influences of the history of the case.

If we carefully consider the symptoms which challenge careful consideration, we shall be led to regard as the most important of the symptomatic phenomena, those associated with disturbances of respiration. They are, in the order of their value in diagnosis, as follows: Rapid breathing; dyspnœa on exertion; dyspnœa on change of position; dyspnœa, explained by physical signs; orthopnœa; paroxysmal dyspnœa.

For the purposes of eliminative diagnosis, we need to consider more at length the causes of rapid breathing. They are:

Increase of blood	Hyperæmia Passive congestion	Pulmonary.
Increase of tissue	Fibroid-Phthisis. Tuberculosis.	
Increase of water	Œdema of lungs. Capillary Bronchitis. Pleurisy with Effusion. Pericarditis.	
Empyema.		
Tumors	Aneurismal. Mediastinal new growths. Malignant diseases of the lungs.	
Pneumothorax	Pyo- Hydro-	
Abscess.		
Gangrene.		
Asthma	Renal. Cardiac.	
Anæmia.		
Disease of Pneumogastric.		

The rules of eliminative diagnosis enable us to throw out as not material to the present discussion, all of the foregoing, excepting œdema of lungs, laryngeal paralysis, and the varieties of tumors embraced under the term mediastinal new growths and aneurismal.

Pressure upon, or disease of, the pneumogastric, caused by enlarged cervical or bronchial glands, intra-thoracic new growths and aneurism, is recognized as an important agent in the production of rapid breathing. The history of this case may be confidently appealed to in confirmation of the existence of one or more of the above causes.

The pulmonary œdema, joined, as it is, with evidences of venous stasis in the face and neck, cannot be wholly referable to influences exerted upon the pneumogastric, and it is only explainable by hindrances to return of blood through the superior vena cava, by causes existing within the thoracic cavity.

I quote the admirable words of Bruen: "When we consider that in the diagnosis of aneurism of the aorta, every sign and symptom has in turn been found to be fallacious in the ever-varying conditions under which aneurisms appear, and that one is forced to say that aneurism has no pathognomonic signs or symptoms, the

difficulties in the way of differential diagnosis of intra-thoracic tumors may be recognized. Moreover, the diversity in the peculiarities of each case, the multifarious character of the pressure symptoms and physical signs, and the absence of a precise order of phenomena peculiar to tumors in this situation, may render a positive diagnosis in the early stages very difficult."

In this case, there had been none of the causes predisposing to disease of the coats of the arteries, but there was offsetting this, the history of laborious occupation, of violent exercise, and of obscure traumatism of seven or eight years previously; pain was nearly absent; this, too, in spite of the evidences of a tumor, as shown by the limited prominence in the left sternal region; pulsation and thrill, murmur, and lateral expansion were absent, important diagnostic factors in aneurismal growths, and the recurrent laryngeal gave no direct sign of involvement, neither hoarseness nor aphonia having existed. The variation in the radials implied obstruction, or pressure from some one of several intra-thoracic causes, not from aneurism alone.

Mediastinal new growths, the majority of which are lympho-sarcomatous, oppose in their earlier stages many obstacles to a conclusive diagnosis. Broadly stated, there are no symptoms or physical signs, nor any precise order of phenomena peculiar to, or definitely diagnostic of intra-thoracic new growths.

The wider the departure from the usual concurrent signs of intra-thoracic tumors; the more diffused the signs of obstruction, and of disturbed mechanism referable to the mediastinum (when thoughtfully considered in connection with the history of the case) the firmer the foundation upon which to rest a diagnosis, of the class of intra-thoracic new growths of which one case is typical.

We were, in considering this case, mindful of the fact, that these growths increase from without inwards, that the slight external tumor might be but a surface indication of extensive deposits, an opinion confirmed by the large area of percussion dulness: that the physical signs of collapse of pulmonary lobules, upper left front, and the evidence of venous stasis in face and neck were conjoint witnesses inseparably connected and associated with the cervical glandular enlargements, an aggregation unimpeachable and conclusive.

Let us now turn to the consideration of the later symptoms found in the rapid growth of the tumor, and in the evidences of obstruction, declared by the external signs, and the local mechanical interference with the functions of the thoracic organs.

At an interval of four weeks the following conditions existed: —

The face, neck and left arm were œdematous and dusky: the neck broadening to its base was much enlarged, irregular in surface, and the supra-clavicular depressions were obliterated; anteriorily, from the sternal notch upwards, the growth masked the outlines of the larynx. Respiratory movements in the left upper chest were absent; the heart's apex was displaced downwards and outwards into the seventh interspace, outside the nipple line; to rapid breathing, there had been added orthopnœa, of the most pronounced type, the patient sleeping much of the time with his head bending forward towards his drawn-up knees.

The tumor before noted as a small elevation had so increased in size as to involve the costal cartilages and the ends of the second, third and fourth ribs, and measured three and one-half by four and one-half inches, with an estimated elevation of one and three-fourth inches; it was a firm, resisting, non-heaving, non-expanding mass, free from pain and not tender on palpation or percussion; there was flatness on percussion, from the left apex to the third interspace and thence to the right of the sternum. Vocal fremitus was absent in this region; respiratory murmur other than transmitted could not be heard; the voice sounds were not distinctive; urgent symptoms, referable to obstruction of the trachea, as well as of the superior vena cava, became more constant, and Dr. Porter's opinion was sought, with reference to surgical measures to secure relief. He decided that the growth in front of the larynx and the evidence of obstruction beneath the sternum precluded tracheotomy, and rendered any operation impracticable.

The evidences of extreme malignancy were found in the processes destructive to life, and rapidly advancing during the few days previous to the death of the patient. Briefly these proofs were, glandular enlargements, cervical and axillary, particularly on the left side, causing obstruction and so great increase in size of the left arm that it was nearly twice the size of its fellow; cyanosis of the face and neck, taking the place of the previous lividity and dusky hue; persistent dilatation of the superficial veins of the neck and face; pressure signs referable to the trachea and left primary bronchi, and in the condition of the heart, displaced downwards and outwards, with marked signs of cardiac failure; most significant of all, a tumor, increasing rapidly along the lines of least resistance, and involving, while not destroying, a portion of the anterior chest wall. We easily recognize in these physical signs the classical phenomena of obstruction, from a quickly developing intra-thoracic new growth.

The rational and physical signs accompanying mediastinal tumors, are complex and varying, and modified as such signs must be by reason of the changed anatomical relations of the structures involved, and the inconstant position of new growths in this region; careful consideration will, nevertheless, reveal the co-existence and close association of diagnostic factors of these three classes, namely, disorders of circulation, disturbances of innervation, respiratory phenomena.

IMPERFORATE HYMEN WITH RETENTION OF THE MENSTRUAL FLUX.[1]

BY W. H. BAKER, M.D.

FROM the fact that in the practice of gynæcology for twelve years past I have met with but one case, the report of which I wish to present to you this evening, assures me that as a class, they are infrequent.

We often see cases where there is more or less complete atresia of some part of the vaginal canal, as a result of a severe labor, or following some sloughing of the parts after some of the exhausting fevers; but a complete closure of the outlet of the vagina from a congenital malformation, with a well-formed vagina, uterus, and ovaries, occasioning a distention of either the vagina, uterus, or Fallopian tubes, or of all, is of much more rare occurrence.

The report of the case is as follows: Mrs. A. L. was referred to me by Dr. Towne, of Manchester, N.

[1] Read before the Obstetrical Society of Boston, February 13, 1886.

H., who had made the above diagnosis, and desired me to operate. She was a Swede, twenty-one years of age, and had been married six months. From the age of fourteen, she had molimina of menstruation, but there had never been any flow. These symptoms varied in intensity, and consisted of pain in the groins, feeling of fulness, and weight in the lower abdomen, sometimes so severe as to render her unconscious for a time. Since her marriage there had been frequent attempts at intercourse, accompanied with pain on her part, and but little satisfaction on the part of her husband. Her general health appeared to be good.

Physical examination showed the external organs of generation well developed, with the exception that the hymen was imperforate, and the meatus urinarius was so much enlarged that it readily admitted the fore-finger. It, however, occasioned no incontinence of urine; this latter I also considered a fault of development, rather than a dilatation from the unsuccessful attempts at coition. With one finger in the rectum and one in the bladder, an indistinctly-fluctuating tumor was found to nearly fill the pelvis. By recto-abdominal palpation, no evidence of a distention of the uterus or tubes could be established.

June 24th, 1885. The patient being etherized, and a more careful examination being made, mainly for the purpose of determining whether the tubes were distended, a free incision was made through the hymen, which was about 3-16 of an inch in thickness, and forty ounces of thick, chocolate-colored fluid removed. The uterus and tubes were then found unaffected, and the vagina was thoroughly cleansed with a solution of corrosive sublimate, 1 to 2000. This canal was filled with iodoform gauze, and the patient put to bed.

Subsequently, the temperature was never but once above the normal, which was on the evening of the second day, when it scored 99.5°. The iodoform dressings were changed each second day, which not only insured the cleanliness of the vagina, but promoted the healing of its walls, which were much thickened and granular, bleeding easily, but also in their application and removal, insured against any closing again of the hymen. She returned home in two weeks, and from letters received both from Dr. Towne and her husband, I am assured of her health and happiness. She menstruated but once after the operation, becoming pregnant almost immediately.

By the kindness of the late Dr. J. B. S. Jackson, my attention was called, some years ago, to a most remarkable specimen in the Museum of the Medical Improvement Society, which was removed *post-mortem*, the case having been under his care, and seen by several of the most prominent surgeons of this city practising thirty years ago. Both the uterus and vagina were dilated in this case to such an extent, that the fundus of the uterus reached the umbilicus; the Fallopian tubes also were greatly distended, feeling like sausages on either side of the uterus. Although the condition was recognized by all, yet non-interference was advised, and the patient succumbed to her disease.

In the treatment of the class of cases under consideration, I am sure that it is essential to determine whether the tubes, as well as the uterus and vagina, are distended by the retained menstrual flux, for if so, it will not be safe to make a free incision and empty the uterus and vagina, for either septicæmia will occur from the tubes, or there will be great danger of their rupture occurring from the increased peristalsis of their walls, excited into action by the contracting uterus. If, then, such condition be present, it would be best first to remove the distended tubes by laparotomy, and then make the free incision through the hymen, and empty the uterus and vagina. If, however, the retention of the fluid does not extend to the tubes, the case may be treated simply by evacuating the vagina, or vagina and uterus, and keeping the walls clean and the opposing walls from uniting by adhesive inflammation.

RECENT PROGRESS IN THE CARE OF THE INSANE.

BY WALTER CHANNING, M.D.

INSANE CRIMINALS.

"THE Connection between Crime and Insanity"[1] is the name of a new book by Sander and Richter, reviewed by Dr. Pelman, who remarks that it has been an accepted fact among physicians who care for the insane, that criminals, who become insane while undergoing sentence, are not fit subjects for insane institutions. Nevertheless, in prison they occasion great trouble, and cannot be prevented from outbreaks of insanity. Whatever plans have been proposed for their provision, the opinion has been pretty unanimous to keep them out of asylums.

Dr. Sander, in his book, takes the opposite ground, and says that, in his opinion, special institutions for the criminal insane are not necessary. Dr. Sander's field of labor is at the great asylum at Dalldorf, where the observations embodied in his book have been made, and they certainly demand serious consideration.

From outside observation of affairs at Dalldorf, Pelman thinks the opposite opinion from that of Dr. Sander would be formed. And this would be strengthened by the communication of Sommer, in 1884, which described the trouble that had arisen from bringing insane criminals together at Dalldorf, in consequence of which it had been necessary to obtain the services of two prison officials, who, to a certain extent, acted as overseers of the division devoted to the care of this class.

Dr. Richter, in the first part of Dr. Sander's book, gives a history of 190 criminals treated at Dalldorf from 1880–1883. The number among these who made attempts to escape is considerable, while not a few succeeded, and others misbehaved themselves. The impression made on Pelman by reading the report of these cases, is that they are not fit subjects for a lunatic asylum.

Sander found that 75 per cent. were in an insane condition when they were sentenced. In only thirty-eight cases were the patients' condition discovered at the time of trial, so that the chance of being unfairly sentenced was only one in three. Out of fifteen paralytics, four only were discovered to be such!

There were six times as many persons among the insane in the institutions of Berlin, who had undergone criminal prosecution, as among the generally healthy population of Prussia, which, Sander thinks, demonstrates the close connection between insanity and crime.

Only eight per cent. were more dangerous and troublesome than the ordinary insane, but the women are left out in this estimate.

[1] Die Beziehungen zwischen Geistesstörung und Verbrechen. Von Dr. W. Sander and Dr. A. Richter, Berlin, 1886. Besprochen, von Dr. Pelman. All. Zeitschrift f. Psychiatrie. 22tes. Band, 4tes Heft.

In the smaller institutions, Sander thinks one or two rooms fitted up more strongly than the others will be sufficient for the criminal insane. In the larger institutions, an annex, or a connected building, or ward especially arranged for this class, will be sufficient.

Be the form of arrangement what it will, it is especially important to consider the question of prophylaxis, or how the production of this class of persons can be prevented. They are punished and kept for years in prison, to be finally sent to insane asylums.

Physicians acquainted with insanity should be present at the examination of the inmates of, at least, the large prisons. The judge should also turn his attention more than has previously been the case, to the mental condition of criminals coming before him, especially in young persons, and he need exercise less care in regard to simulation.

The Trustees of the Worcester Lunatic Hospital again express their very strong disapproval of treating the criminal with the ordinary insane.[2] They say that the first movement toward relieving the overcrowding of the Massachusetts hospitals should be in the direction of separate provision for insane criminals. "That they should be treated upon the same terms as, and allowed to associate with those innocent of criminal act, or thought, is opposed to every sentiment of propriety and justice. . . . No criminal, insane or otherwise, should be sent to serve out his sentence to a hospital designed and constructed for the care and cure of innocent and respectable persons, who are so unfortunate as to be sick in mind."

The Trustees think that there is land enough in connection with all the State insane hospitals, upon which buildings might be erected suitable for the treatment of insane criminals. Such buildings could be large enough for two hundred to two hundred and fifty persons, and need not cost more than $300 or $400 per bed, and they could be supervised and managed by the officers of the general hospital.

At the Maine Insane Hospital,[3] they "suffer very sensibly" from the presence of twenty-eight insane criminals, and the superintendent thinks it would be wise to erect a separate building for them.

Dr. Eugene Grissom, Superintendent of the North Carolina Insane Asylum, is very emphatic in what he says regarding the association of the criminal with the common insane.[2] "The repeated decisions of the courts sending persons accused of grave crimes to this institution upon a verdict of insanity, are gradually filling our wards with cases that are unfit to be associated with the virtuous insane." In his Report for 1872, he referred to the same evil, and now says that it has been steadily growing in magnitude since that time.

He thinks that the establishment of proper quarters for the criminal insane within the limits of the penitentiary, would tend to diminish the burdens of the courts, and make criminals and their friends less anxious for their acquittal on the ground of insanity.

The Morristown, New Jersey, Asylum also has a number of the criminal insane.[2] Of these the Superintendent writes:— "While some of them are undoubtedly persons whose crime is the outgrowth of their insanity, and are not more troublesome than other insane persons of the same class, others properly belong to the criminal class, with all their propensities in full vigor, in some cases, intensified by their insanity. . . . The ordinary wards of an asylum . . . are not fitted by their construction for the detention of such crafty and determined men. For them there should be provided, either in connection with the prison, or with one of the asylums, a ward, or wards of greater strength and security. . . . The need of such provision is also great for such persons as escape conviction from crime on the ground of insanity. . . ."

Dr. Godding, Superintendent of the Government Hospital for the Insane, at Washington, now has forty-three insane criminals under his charge.[2] The hospital has no special department for this class; therefore, they are, of necessity, placed among the ordinary insane. This is all wrong, Dr. Godding thinks, as insanity is not a crime, and should never be regarded as such. The protection of the community makes it necessary that insane criminals should be securely guarded, but "the professional burglar, overtaken by insanity, and sent to the hospital, smiles, in his lucid moments, at the window-guards of the dormitory, as if they could ever be thought to represent confinement for him."

CONGRESS OF CRIMINAL ANTHROPOLOGY, ROME, NOVEMBER, 1885.[4]

Dr. Motet who presented the report says that all the young students of medicine and law in Italy are deeply influenced by Professor Lombroso, author of the "L'Momo delinquente." The Congress called for discussion of the above subject in the new light thrown upon it by him and others in late years. The question resolves itself into two parts — criminal biology and criminal sociology. The former embraces the study of the criminal in his organic and phychical conditions, and the latter considers how society may best protect itself against him who endangers its security or repose.

Criminal biology. Professor Lombroso laid great weight upon atavism, and Professor Benedikt, of Vienna, said that neurasthenia dominates the whole system of the criminal. He considered insanity and crime such close neighbors, that he proposed to replace the expressions, "culpability" and "punishment" by "harmfulness or danger to society" and "the right of prevention or preservation."

Professor Lombroso exhibited a large number of skulls and passed in review the principal anomalies of development which he said were more frequently met with in criminals than elsewhere.

M. Ferri distinguished two classes of criminals; the instinctive criminal and the criminal from passion. He said that the insane criminal belonged to the former class. The instinctive criminal is almost always precocious, but the others almost always commit the first crime between the ages of twenty and thirty. From a social point of view, crime is a more profound degeneracy than insanity, since most of the insane are not dangerous, their moral sense having survived the wreck of intelligence.

Professor Sergi considered the question whether there exists a bio-pathological character which predisposes to crime. Criminals often are found to have disease of the nervous system, particularly of the brain. He took for his guide this maxim, "Every sign of morphological degeneracy is also a sign of functional degeneracy."

Prof. Roméo Taverni insisted on the influence of a well-ordered education in producing a well-balanced mind, and also thought that criminals in prisons should

[2] Annual Report, 1885.
[3] Annual Report for 1885.
[4] Annales Medico-Psychologiques Mars, 1886.

be carefully classed in order to prevent the pernicious effect of placing those charged with milder offences among hardened criminals.

M. Morselli, whose studies on suicide are well known, sustained with great talent a theory which excited many objections. He believes in the antagonism of homicide to suicide. He concludes that if there sometimes is parallelism between the two, there is usually antagonism. It does not seem to us that the statistics of France show this. This question is still a study. (I think this antagonism means that when homicide increases, suicide decreases, and vice versa.)

M. Frigerio said that the born criminal belonged to the epileptic family. The Congress in general did not admit the correctness of this view. The question of simulation led the Congress to express the wish that a special place might be reserved in prisons and asylums where might be kept and observed, every individual suspected of simulating insanity. The Congress also expressed the wish that a museum of criminal anthropology might be formed.

The Congress, without discussion, declared that it was in favor of having measures taken to admit to the penitentiaries professors and students for the study of criminal science.

Professor Lacassague spoke of the expert physician before the courts, and thought it might be well to allow the accused to chose an expert and oppose him to the physician employed by the government.

Dr. Semal, in the preceding Congress at Antwerp, used the following words: "Why hesitate to face this problem, by assuming the hypothesis which gives to crime and insanity a common origin? Especially as the question seems to have arrived at a point where it can be more safely investigated, since we have left the domain of pure theory to enter the more reliable one of clinical experience. From the bosom of every belief, even if pushed to excess, there issue elements of truth destined in future to form a new system of doctrine." We are at the commencement of a great scientific movement and must not mistake its character. Its chief promotors show a vigor and severity in their plans for the protection of society, which have never been displayed before. Nevertheless the individual is not sacrificed, for if he belongs to a certain type, special measures will be adopted for his improvement, but if it is recognized that he can never improve, that he will always be a social danger, he will then be eliminated at once and forever from the society which he menaces.

(To be continued.)

Clinical Memoranda.

A CASE OF FRACTURE OF THE SKULL FOLLOWED BY ABSCESS.

BY ATHERTON P. MASON, M.D., OF FITCHBURG.

The following case, which occurred in the practice of Dr. George Jewett, of this city, is of more than usual interest as regards its nature, course, and favorable termination. Having watched it closely during the several weeks of my connection with it, and considering it a case well worth reporting, I have prepared the following brief account of it. For the early history I am indebted to Dr. Jewett, who kindly furnished me with notes made by him at the time the patient came to his office.

J. M., laborer, a large, stout Irishman, about fifty years old, came to Dr. Jewett's office on the morning of August 30th, 1885. He had upon the left parietal eminence a contused wound about one and a half inches long, and extending to the bone. He said that the wound had been received the night previous, but was very reticent as to how he came by it. The wound was filled with hair which had evidently been cut off by some instrument with a dull edge or moderately sharp corner. After careful cleansing there was found a depression of the skull, scaphoid in shape, one and a half inches long, one-half inch wide, and one-quarter inch deep in its widest and deepest portions. The man made no complaint of head or other symptoms, except of tenderness when the wound was touched, and Dr. Jewett observed no symptoms referable to disturbance of the cerebral functions. The wound was dressed antiseptically, the patient was informed of its dangerous character, and absolute rest enjoined; any unfavorable symptom was to be immediately reported.

Nothing further was heard of him until September 5th, when he came again to Dr. Jewett's office on account of pain in the wound. A bloody, purulent discharge issued from the injured parts. Patient said *he had worked steadily during the week past without inconvenience.* The wound was dressed as before, and he was told to stay in his house, and on no account to work.

September 7th a messenger came in haste to Dr. Jewett's office, and said that the man had "had a fit." When seen a short time afterwards, he had a small, hard pulse of 100, temperature 101°, and slow, stertorous respiration. Was mainly unconscious, but could be partially aroused with difficulty. Nothing particular known of his morning history, except that he was heard to fall heavily while alone in his room. He gradually regained consciousness to a considerable extent, and early in the afternoon of the 7th, Dr. Jewett asked Dr. C. W. Spring and myself to assist him in operating.

After etherizing, which was accomplished with some difficulty, a free crucial incision was made in the scalp, and the site of injury to bone exposed. The depression was found to be quite smooth, except on one side, where the fractured wall was vertical and somewhat fissured. Moderate continuous pressure with an elevator opened a fissure, which furnished a key to the situation. The fractured wall was found to be separated at the diploë. The outer table was easily removed in small fragments, but the inner was much more disturbed, and was removed with difficulty and very cautiously. Two sharp fragments were found driven vertically through the dura mater into the substance of the brain. When these were removed, a current of pus welled up from beneath the dura; considerable arterial hæmorrhage followed, but was soon arrested by the gentle pressure of a carbolized sponge. Marked arterial pulsation was observed in the brain substance. The wound was dressed antiseptically with moderate pressure. Patient came out of the ether well, and was tolerably rational at our departure.

September 8th. Passed a rather wakeful night. Pulse in the morning full, soft, 100, temperature 99°. Some hæmorrhage from wound; some confusion of ideas. Same condition at evening visit.

September 9th. Pulse 80, temperature normal,

mind clear, right side of face partially paralyzed, slight aphasia.

During the following week there was some pain in head, slight fever, and gradual increase in paralysis and aphasia. Food accumulated in the right side of the mouth, patient did not seem to possess the power to put out his tongue, right arm and hand became partially paralyzed, and his mind was considerably confused, though there was no delirium at any time. The wound was dressed daily, and preserved a healthy appearance throughout. Moderate secretion of pus. Treatment consisted of tonics and Potass. Bromid. Paralysis and aphasia reached their acme about September 18th, and after that steadily decreased, both being almost entirely gone by the end of the month.

During the last week or ten days of September he had quite an attack of erysipelas, which began in his left ear, and crossed over to the right side. The swelling was considerable, and both his eyes were closed for a day or two. The redness and swelling reached nearly to the margin of the wound, but did not invade it. Glycerine was used locally, and Tr. Fer. chlor., gtt. viii, every four hours, administered internally during the erysipelatous attack, which had the average duration of the simple cutaneous form of the affection. The progress of healing went on favorably in the wound which was completely closed about the middle of October. Just prior to its closure there was necrosis of a portion of the edges of the bone, and several fragments came away. The urine was examined several times during the progress of the case, and always found to be normal.

In the foregoing account the salient points in the case have been briefly described, but no attempt has been made to give a complete record. Two features of the case impressed themselves upon my mind, namely, (1) that this man, having two sharp fragments of bone driven through the dura and into the brain, thereby giving rise to hæmorrhage and the production of pus, could work steadily for a week after the reception of the injury, and displayed no special cerebral symptoms until the eighth day after the injury, at which time cerebral symptoms of a serious nature were apparently suddenly developed. (2) That the erysipelas did not appear in the wound or attack it at all. The erysipelas was severe and exudation rapid as evinced by the appearance of vesicles filled with serum during the progress of the attack. These were most abundant on the ear, the place of beginning.

When last seen in November, the patient was about enjoying life and apparently in as good health and condition as one could desire.

A CASE OF FRACTURED SKULL, WITH AUTOPSY.

BY W. D. BIDWELL, A.M., M.D., (HARV.), LEAVENWORTH, KAN.

In an altercation between C. H. Young and R. B. Gray at five o'clock in the afternoon of Thursday, February 11th, Young struck Gray in the head three times with his left fist, on the little finger of which was a large seal ring. Shortly afterwards Gray left the house, and after riding home, put up his horse and went to a saloon about a mile distant, where he said he felt dizzy and wanted to lie down. It was then after six o'clock. When the saloon was closed at ten o'clock it was found to be impossible to rouse him and a physician was summoned, who arrived at one o'clock and found him perfectly unconscious and with a temperature of 101°. Cold applications to the head were ordered and the patient kept quiet. The patient being in the same condition at ten o'clock the next morning, (February 12th) his father had him carried home on a bed improvised in an express wagon. He was first seen by the writer at one o'clock, when he presented the following symptoms:

Temperature in the axilla, 102°; respirations, 40 to the minute, pulse 80, breathing stertorous, left pupil dilated, both pupils without reaction to light, some rigidity of the muscles of the extremities and free perspiration. There was a cut about one inch long and a quarter of an inch deep over the left malar bone, a slight bruise on the left forehead close to the hair, a slight contusion of the concha of the left ear, and a bruise with moderate swelling above and behind the left ear. At five o'clock the temperature was 102.8°, respirations, 40 to the minute, and pulse 92 and full. No other change in his condition could be detected. A diagnosis of compression of the brain from hæmorrhage had been made, but the external marks of violence were so slight that the brain injury could not be localized, and it was deemed advisable not to resort to operative measures. At seven o'clock, his position was changed owing to difficulty of breathing, and he died without having regained consciousness.

The autopsy was held the following afternoon at five o'clock. Rigor mortis was present. Between the scalp and the skull there was moderate hæmorrhage which had raised the scalp uniformly over an area extending from the forehead to a point a little behind the left ear and half way up on the parietal bone. Just above the external meatus there was a fracture of the squamous portion of the temporal bone which could only be detected from the inside. There was a firm dark clot four inches long, three and one-half inches wide and one inch thick at the middle, lying between the skull and dura mater, compressing the brain over an area corresponding to the hæmorrhage outside the skull. There was also a bag of serum at the posterior extremity of this clot containing about one ounce of fluid. The fracture was over the middle meningeal artery which had been torn through by a sharp projecting fragment. If there had been positive information that no injury was received Thursday night save the blow on the side of the head, the trephine would have been used, but the history was not obtained till the day following his death, he having gone some distance from the place where the affray occurred before he became unconscious. The bone in which the fracture occurred will be produced at the trial in the District Court in April.

— In the reports of fertility which are just now exciting the admiration of the medical press, the Naples correspondent of the *Paris Register*, quoted in the *New York Medical Abstract*, leaves all rivals several lengths in the rear. He says: "Twenty-five miles from here lives Maddalena Granata, aged forty-seven, who, at twenty-eight, married a peasant of nineteen. She has given birth, dead and alive, to fifty-two children, forty-nine of whom were males; she is healthy and robust, and twenty-four hours after her last accouchement, was ready for her accustomed labor in the field. Fifteen times she gave birth to triplets."

Reports of Societies.

PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. M. GREEN, M.D., SECRETARY.

FEBRUARY 13, 1886, the President, DR. A. D. SINCLAIR, in the chair.

DR. W. H. BAKER reported a case of

IMPERFORATE HYMEN WITH RETENTION OF THE MENSTRUAL FLUX.[1]

DR. COTTING alluded to a case he had seen thirty years ago, that of an unmarried woman, sixteen years of age, suffering with periodical pain and retention of urine, and reported to be pregnant. He found that the hymen was imperforate and bulging, and there was an abdominal tumor as large as a child's head. The patient entered the Massachusetts General Hospital in the service of Dr. J. Mason Warren, who first drew off the retained menstrual fluid with a trocar and then made a crucial incision through the hymen. The incisions so nearly healed in a few days that it was necessary to remove a circular piece from the hymen to prevent its complete closure. The patient had no trouble afterwards, and the catemenia were regular; but she never became pregnant.

DR. STRONG said that in Dr. Baker's case the condition of the vagina was striking. The enlarged villi bled easily and secreted healthy pus: this secretion gradually diminished, however, and the villi subsided, so that when the patient was discharged there was only slight leucorrhœa. The vulvar orifice remained patent and the speculum caused no pain.

DR. BLAKE said that before the day of antiseptics most patients with imperforate hymen died after operation of peritonitis and septicæmia: such cases were therefore much dreaded by surgeons.

DR. J. G. DEARBORN, of Charlestown, reported, by invitation, the following case of

VERMIFORM-APPENDICITIS AND GENERAL PERITONITIS, COMPLICATING THE PUERPERAL PERIOD.

Mrs. G., aged twenty-four, after an unusually rapid labor, was delivered of a healthy female child at 6 P.M., January 17th. This was her second pregnancy. Her health up to the time of this confinement had been good. My next visit was at noon of the following day. She had taken the usual nourishment. There had been a free evacuation of the bowels and she had passed urine twice. Her condition seemed to be in all respects satisfactory. At 10 P.M., I was summoned and found her in great pain. The pains were spasmodic in character and seemed to be located chiefly in the lower part of the abdomen, but sometimes shifted to other portions. Abdomen tympanitic over upper portion, but not swollen nor was the pain increased by pressure. Ordered hot applications to the abdomen, and an enema of warm water. A considerable discharge of gas followed the enema, giving temporary relief. Hot applications were continued and presently another enema was given. This afforded some further relief, but the pain was still quite severe. Morphia was then administered, with directions to repeat the dose until relief was obtained. Tuesday, the 19th, very little pain in the morning. Abdomen not swollen, sensitive to a light touch; but deep pressure caused no increase of pain. Lochia deficient. Warm vaginal douches were given and an enema morning and afternoon. No action of the bowels. Pulse full and regular. Pain returned in the afternoon, but was easily checked by morphia.

During this and the two succeeding days the pulse varied between 88 and 96, and the temperature taken twice daily (in the mouth) was never above 100° F., nor below 99°. Wednesday, the 20th, abdomen sensitive to pressure only over lower portion, tympanitic, but not swollen. Breasts contained some milk, and she began to nurse her child. Lochia still deficient. Severe pain in the afternoon. Morphia as before. At 8 P.M., Dr. F. Minot saw her in consultation. Morphia continued during the night as required, and she had some sleep.

Condition on Thursday, the 21st, substantially unchanged. Very little pain during the day. One-half ounce of castor oil given in the morning. Vomited a small quantity of mucous twice during the day, but was able to retain all articles of food and drink. Friday, the 22d, pulse 96, morning temperature (in axilla) 100.2°, evening 100.7°. Some swelling of abdomen, moderate tenderness on pressure. No secretion of milk. Vomited once about four ounces of liquid tinged with bile. Citrate of magnesia given in the morning: in the afternoon an anema brought away a small quantity of fæcal matter.

At 9.30 P.M., Dr. W. L. Richardson saw her in consultation. With the view of obtaining a thorough action of the bowels five grains of calomel and six grains jalap were administered at 11 P.M. Saturday, the 23d, I was summoned at 5 A.M., and found her restless, but without pain. Pulse 140, small, thready, and at times almost imperceptible. Temperature 97.8°. Facial expression anxious: swelling of abdomen considerably increased, but walls not tense: extremities cold. There had been no action of the bowels. Under the use of stimulants the pulse at 8 A.M., had become stronger and slower, and her general appearance somewhat improved; but at 11 A.M. vomiting began. From this time she sank rapidly and died at 12.30.

DR. GANNETT, who made the autopsy, described the appearances presented:

Death resulted from general peritonitis, occurring in a puerperal woman one week after delivery; but it was not a case of puerperal peritonitis; that is, the source was not the uterus or vagina, but was wholly independent of the generative organs, which showed a normal condition for that period after the birth of the child.

The origin was found in an inflammation of the vermiform appendix, appendicitis. This organ was doubled in diameter: on opening, it was found to contain a grayish, pap-like material; the mucosa was much thickened, reddened, injected, and in parts hæmorrhagic. At the neck there was a constriction: at this point there was a marked loss of substance of the mucosa, the base being black in color. The peritonæum of appendix covered by recent fibrinous false membranes; around it, in the cavity of the pelvis was a small amount of pus.

The cavity of the pelvis was shut off from the rest of the abdominal cavity by the adhesion of the wall of the uterus and folds of intestine to the brim of the pelvis by recent fibrinous false membranes. The lower twenty-four inches of the ileum were contained in the pelvis; the folds of this portion were united by fibri-

[1] See page 290.

no-purulent material. The remaining portion of small intestine, which was free in the abdominal cavity, was greatly distended with gas and liquid contents. The peritoneal surface showed the presence of a thin fibrinous false membrane, but the coils were not adherent to each other.

The peritonæum covering the spleen and liver showed a much thicker fibrinous false membrane upon its surface. The heart, kidneys and liver showed evidences of a cloudy swelling: the spleen hyperplastic to a moderate degree.

One has to do in this case with an acute catarrhal-hæmorrhagic inflammation of the mucous membrane of the vermiform appendix with ulceration; the inflammatory process then extending to the peritoneal surface and in turn leading to a general peritonitis.

DR. W. L. RICHARDSON said that when he saw the case he considered it one of septicæmia, although he could not find evidences of any uterine or ovarian trouble. He was influenced in his opinion by the sudden arrest of the lochia, followed by a rise of temperature and abdominal tenderness. A vaginal examination, however, showed the uterus to be of normal size and not tender, nor was there any evidence of inflammation in the region of the ovaries on examination *per vaginam*. He had closely questioned the patient as to her health prior to the confinement, but could not ascertain that she had been otherwise than in perfect health. After her death her husband had stated that she had been for a week before her confinement complaining of pain in the right iliac region. The doubt in his mind had been whether there might not be some intestinal obstruction; but the fact that she had had free operations from the bowels since the attack, had ruled that out. Although he had considered it a case of septicæmia he had advised against any uterine treatment, inasmuch as he could find no evidence pointing to the uterus as the source of the trouble.

In reply to a question by Dr. Abbott, Dr. Dearborn said that the patient had had a sense of fatigue and weariness in the right iliac fossa for two or three weeks before labor; still she declared she was in good health up to the time of her delivery.

DR. F. B. HARRINGTON reported, by invitation, a case of

SEVERE HÆMORRHAGE FROM ANTE-PARTUM SEPARATION OF THE PLACENTA, WITH THE INFUSION OF SIXTY-SIX OUNCES OF SALT SOLUTION.[2]

DR. W. L. RICHARDSON said that he had seen the patient this afternoon. Her pulse was good and her general appearance was that of a patient convalescing from some sickness of moderate severity. He would never have thought that she had so recently suffered from a hæmorrhage which would certainly have proved fatal but for the prompt and skilful treatment which Dr. Harrington had used. The wounds in both arms had perfectly healed.

DR. REYNOLDS spoke of the great value of electricity in post-partum hæmorrhage, and thought the obstetrican should never go to a case of labor without taking with him a battery in working order. He said it was unsafe to tampon the vaginam *post partum*, unless the uterus was held so as to prevent its filling up with blood.

DR. STRONG said that after the application of the first tampon, the uterus was supported for more than an hour and remained well contracted, and it therefore seemed safe to remove the hand. The post-partum hæmorrhage was not excessive and would have caused no alarm, if the patient had not been so much depleted by the ante-partum hæmorrhage. There was great difficulty in dilating the cervix: the pains had only very slight effect on it, and it seemed just before the cervix tore that it would have to be incised. Comparatively little was known of the value of salt infusion; but in this case the patient would undoubtedly have died, if this treatment had not been promptly resorted to.

[2] The paper appeared in the Journal of March 4, page 197.

A NEW CEPHALOTOME.

DR. EDWARD REYNOLDS, Senior House-Officer of the Boston Lying-in Hospital, exhibited, by invitation, a cephalotome of his invention, and explained its construction and use:—

The object to be aimed at, in the construction of any instrument for decapitation, is two-fold: first, the avoidance of danger to the soft parts of the mother; and second, a rapid and easy division of the neck of the child.

The instrument in question is, in principle, merely a large and powerful écraseur, modified by substituting for the blunt end of the ordinary écraseur, a crescentic knife one and one-half inches wide, which terminates on either side in a blunt point, designed to protect the maternal parts from injury during the introduction and withdrawal of the instrument. Each of these projecting horns bears upon its inner surface a deep slot, fitted to receive the ends of a loop of No. 18 steel piano wire, which has been found upon trial to be admirably suited to the purpose, since it possesses at once great strength and sufficient flexibility. The necessary power is furnished by a steel axle, with transverse handle, fitted with a ratchet, and pierced by a hole, through which the wire is passed.

The capacities of this decapitator are easily appreciated by remembering that as soon as the instrument is in position, the neck is in the grasp of an iron circle, about one-third of which is formed by a sharp, cutting edge, against which it is drawn by the shortening of the loop, with a force limited only by the strength of the wire; and this without the slightest danger of implicating the soft parts of the mother.

The operation consists of two steps: first, the passage of the wire around the neck of the child, and its adjustment to the decapitator; second, the division of the neck, and the withdrawal of the instrument, followed, of course, by the extraction of the child in the usual manner. The introduction of the wire is most conveniently effected by an instrument copied from Ollivier's porte-fillet, but modified

by increasing its size, and by substituting for the whalebone stylet of Ollivier's model, a piece of wire — wound piano-wire, which possesses the advantage of being so cheap that it can be thrown away after use, and replaced by another piece, thus greatly facilitating the cleansing of the tube. It moreover reduces the cost of the instrument by more than two-thirds of its price. While the porte-fillet is a convenience in placing the wire in position, it is not a necessity, as an English catheter can be made to answer the same purpose. To this end a loop of narrow tape is passed through the catheter, protruding two inches from its eye. The catheter is softened in warm water, bent to the shape of a blunt hook, and placed about the neck; and is then pushed up along its stylet until the free end bearing the tape is within easy reach of the finger.

The wire should be from three to four feet in length and should be twisted at one end into an eye. In introducing it the looped end should pass behind the neck; and the ends of the wire being drawn well outside the vulva, to render manipulation easy, are then passed through the slot behind the knife of the decapitator. The looped end of the wire is next attached to the hook on the posterior side of the shank of the instrument, while the free end is passed through its handle and through the hole in the axle of the crank. The assistant fastens the wire by giving it one turn backwards around the axle and cuts off its superfluous length. The operator then grasps the instrument in the right hand, and, guarding the knife by placing two fingers of the left hand upon its blunt point passes it into the vagina. He next satisfies himself that the knife is properly adjusted to the neck, that the wires rest securely in their respective slots, and that no fold of the maternal tissues is included in their grasp; then the assistant slowly winds up the crank, under the direction of the operator, who, with two fingers in the vagina, makes sure that the knife maintains its proper relations to the neck and to the wire loop. A sudden relief of the tension upon the wire announces that the neck is severed, and the instrument is then carefully withdrawn.

Dr. William L. Richardson has twice performed the operation upon the cadaver, with most satisfactory results. The introduction of the wire and its adjustment to the cephalotome occupies but three or four minutes, and the decapitation proper is extremely rapid, so much so, that at Dr. Richardson's second trial of the instrument, it was in the vagina but twenty-five seconds, although no attempt at speed was made. The knife seems to pick out the point of least resistance in the neck, for at both trials it passed between two vertebræ, dividing the intervertebral substance, and making a perfectly smooth section, free from spiculæ of bone; thus, of course, greatly diminishing the risks of the extraction.

This instrument, then, appears to be capable of accomplishing the decapitation with much greater ease and rapidity than those in common use, and with far less of danger to the mother. It has been suggested that, by inserting a joint in the shank of the cephalotome to allow of the attachment of a longer shaft with pelvic curve, the operation might be extended to cases in which the neck is so high as to be out of the reach of any straight instrument. Such a shaft would necessarily be provided with a groove or with rings to guide the wire along the curve, and could easily be made by any instrument maker. Messrs. Leach and Greene are prepared to furnish these instruments to the profession, if desired.

DR. W. L. RICHARDSON said that, in addition to the reasons given by Dr. Edward Reynolds, there was this great advantage in the instrument. Whether one uses the decapitating knife of Ramsbotham, Jr., or the hook of Braun, there is more or less danger of injuring the soft parts of the mother by the movements of the fœtus which the use of these instruments involves. This new instrument holds the fœtus firmly in position, and the rapidity of the decapitation is remarkable. At the time he had used it on the cadaver he was not aware that he was being timed, but was doing the operation much slower than he could have done it, with a view of making as central an excision as possible.

In this connection he showed an instrument improvised by Mr. J. W. Craig, of the Medical School, for doing the same operation by the same method Dr. Reynolds had proposed, but with a home-made instrument, such as could be made impromptu in any house. The one he showed had taken thirty-five minutes to make with a hammer and file, and had cost forty cents. It consisted only of a hollow tube, at one end of which a notch had been cut on either side; through this tube the bent wire had been passed and the ends made fast to a bent piece of iron which fitted into the two notches. On turning this iron the wire was twisted tighter and tighter around the fœtal neck until it was severed.

RHODE ISLAND MEDICAL SOCIETY.

THE usual quarterly meeting was held in Providence, March 18, 1886, the President, Dr. O. C. Wiggin, in the chair.

The President announced the appointment of Dr. Albert Potter to serve as second Vice-President in place of Dr. J. W. Sawyer, deceased.

Dr. William B. Goldsmith, recently appointed Superintendent of the Butler Hospital for the Insane, was elected a Fellow.

Delegates to the American Medical Association were appointed as follows: Drs. O. C. Wiggin, H. G. Miller, E. T. Caswell, W. E. Anthony, H. Canfield, H. R. Storer, C. V. Chapin, S. Hunt, M. Fifield, W. R. White, J. Kenyon, G. H. Kenyon, J. H. Morgan, G. R. Smith, A. B. Briggs, D. O. King. A motion to instruct the delegates as to their attitude towards the preliminary organization of the International Medical Congress of 1887 failed of adoption.

DR. H. R. STORER exhibited a large vaginal fibroid tumor weighing one and a half pounds and of the size, shape and general appearance of an ox-heart, which he had removed five days previously from a healthy woman, aged thirty-five, a patient of Dr. J. P. Curley, of Newport. The growth was continuous with the cervix anteriorly and to the left and entirely occluded the vagina. From the fact that the uterus could not be felt above the pubes in its natural central position it was at first feared that the case might be one of the rare instances of spontaneous uterine inversion. Dr. Storer found the depending portion of the tumor soft, compressible and friable, like true uterine tissue, and that a female catheter would but partially enter the bladder, in these respects simulating inversion, but he finally settled the diagnosis by getting a sound past the tumor and into the uterus which was crowded over obliquely to the right.

After the tumor had been cut away with an ecraseur, which was virtually a bloodless operation, it could be rotated in the vagina but could not be extracted with the small forceps at hand. Forcibly dilating the sphincter ani the operator introduced his arm into the rectum, the fingers having to enter the sigmoid flexure before sufficiently expulsive leverage could be exerted. Under this added force, the forceps delivered the tumor.

In answer to an inquiry whether such apparent disrespect to the rectum was surgically justifiable, Dr. Storer replied that surgical justifiability was always to be decided by its results. The question was not so much what was advised by the text-books, as what the occasion indicated, what the necessity required and what the event proved. That Simon of Heidelberg had been criticized for invading the upper rectum and some of his operations condemned, was no argument against intelligent entrance of the rectum under other circumstances. A healthy rectum could endure without local or constitutional sequelæ, measures, or an amount of general dilatation that a cancerous, strictured or otherwise unhealthy rectum might not be able safely to sustain. In the present case there had remained perfect retention of fæces.

DR. F. C. CLARK read a paper on

PRELIMINARY MEDICAL EDUCATION.

The ordinary college course, which was primarily laid out for theological and law students, does not furnish special preparation for medical studies. The Johns Hopkins University, however, has instituted a course of training admirably adapted for this purpose. "Opportunities are here offered to a young man, who expects at a later day to take up the study of medicine, to become proficient in the laboratory while acquiring a knowledge of German and French and continuing his general education. A course is arranged in which physics for the first year, chemistry for the second, and biological study of plants and animals for the third year are the dominant topics. At the close of this course the student should have become proficient in a knowledge of the physical and chemical laws which underlie the conditions of life and with the structure and functions of living things in their normal and healthy condition. He should have become skilful in the use of the microscope and other physiological apparatus; and so when he enters the school of medicine he should know that he has been well prepared for the study of disease and its treatment by a training in fundamental science, which has not only exercised his eye and hand but has accustomed his mind to accurate habits of observation and inquiry." This course leads to the degree of Bachelor of Arts.

DR. H. R. STORER presented a paper upon

THE ANTICIPATORY TREATMENT OF LOCAL EPIDEMICS,

founded on the history of twelve fatal cases of diphtheria occurring during the past winter in the city of Newport and neighboring towns of Middletown and Portsmouth. A zymotic invading several towns cannot be controlled by local health boards as promptly or effectively as by an officer of the State Board of Health, who besides being a skilled expert, is by his official position more independent of local and obstructive influence.

DR. CHARLES V. CHAPIN, Superintendent of Health, of Providence, remarked that it is possible by taking proper measures to prevent to a very great extent many of the more common epidemic diseases. To accomplish this, Legislatures must enact laws which must be administered by competent officials. This will avail but little, however, unless the public can be aroused to an appreciation of the importance and value of the measures proposed. This education of the people is too often left entirely to the health officers. Many physicians are very remiss in their duty as popular educators and do not even take the trouble to learn the simplest facts in sanitary science. It cannot be expected that the public will take much interest in sanitation so long as physicians do not. It is the duty of every medical man to inform himself on sanitary matters and not only to make use of data collected by himself, but also to learn what results have been worked out by the ablest investigators the world over. It is largely because the physicians of a community have been negligent as students and teachers of sanitary science that public sanitation meets obstacles in preventing preventable diseases.

The Society, on motion of Dr. Storer, adopted the following resolution: "That a committee of three be appointed by the chair to immediately memorialize the General Assembly, upon behalf of this society, requesting it to authorize the State Board of Health to personally investigate and restrain, through its Secretary, local outbreaks of zymotic disease, including cholera, yellow fever, small-pox, diphtheria, scarlet fever, typhus and malignant typhoid, as they may occur within the State; and to appropriate for such additional service during the ensuing year a sum not to exceed five hundred dollars."

The Chair appointed as the committee, Drs. H. R. Storer, G. T. Swarts, E. M. Snow.

DR. R. F. NOYES read a paper upon

THE EXOCARDIAL MURMUR,

which was briefly discussed by Dr. S. S. Keene.

NEW YORK COUNTY MEDICAL ASSOCIATION.

STATED MEETING, March 8, 1886.

The President announced

THE DEATH OF DR. GASPAR GRISWOLD,

paying a tribute to his character and attainments, and appropriate action was taken by the Association.

DR. H. M. BIGGS then read a paper on

THE ETIOLOGY OF RABIES AND THE METHOD OF M. PASTEUR FOR ITS PREVENTION.

Many hypotheses had been presented in regard to this subject, he said, without establishing a single condition or circumstance which could bring about or predispose to the development of the disease, excepting only the contagious principle, as transmitted from rabid animals. Many observers, therefore, had expressed their belief in the occasional spontaneous origin of rabies, among whom was Fleming, the most able of the recent English writers on the subject. In support of this view, Dr. Biggs referred to the appearance of the disease in an epizoötic form in countries where it had previously been unknown, and where its appearance could not be traced back to any foreign source, as was the case in Peru, in 1803. Again, it had been observed not infrequently, that in certain countries

which had been free from the disease for a long period, it suddenly appeared in almost an epidemic form, and after a short time, became again apparently extinct.

The occasional spontaneous development of the disease in certain of the carnivoræ, as advocated by many distinguished veterinarians, he thought, however, was to be entirely rejected in the light of facts recently demonstrated in regard to the germ diseases: so that the conclusion that "this disease is maintained and spread solely by its contagious principle, and that there are no other causes in operation," must be absolutely accepted. It was a matter of the greatest importance that the fallacious ideas so prevalent among the laity, and to no small extent, among the profession also, in regard to the influence of climate, season, hunger, thirst, food, pain, anger, ungratified sexual desire, etc., as predisposing or exciting causes, should be corrected. There were no better or more reasonable grounds for believing that any one, or all of these influences combined, he said, could bring about the development of a single case of rabies, than that unfavorable sanitary conditions could produce small-pox when the specific *contagium vivum* of that disease was not present. After presenting a number of established facts bearing on this point, he remarked that a wound or injury produced by the teeth of a non-rabid dog, one whose saliva did not contain the living organism which is its essential cause, could no more bring about the specific disease which we call rabies, than could the wound made by a sterilized knife.

As to the nature or character of this *contagium vivum*, we had at present, no absolute knowledge, except that it must be a living matter capable of reproduction and multiplication when transferred to the living organism, and then producing a specific disease, manifested by varying symptoms in the different species of animals affected, of whose presence or virulence we could only judge by the results produced when introduced into the blood of previously healthy animals. That it was exceedingly minute, was shown by the difficulty experienced in its demonstration: and that it is a micro-organism belonging to the Schizomycetes, was rendered probable by the similarity observed to other known pathogenic micro-organisms, as regards the mode of transmission and development.

Having dwelt for some time upon the results published by Fol, of Geneva, who recently claimed to have discovered the specific micro-organism, to have demonstrated it in the neuroglia of the central nervous system; to have succeeded in cultivating it in appropriate culture media; and to have produced rabies in rabbits by inoculations with pure cultures of this germ, Dr. Biggs went on to say the claims of Fol were not favorably regarded in Pasteur's laboratory, and to explain the reasons why they were not accepted by him and his assistants. He then referred to the studies of Pasteur upon rabies up to the time of the International Congress of 1884, and remarked that some of the conclusions arrived at in his earlier work had not been confirmed either by his own later investigations, or those of other observers, and were, in some respects, opposed to the results recently reported. It must be admitted, also, he said, that unfortunately, in his last communications, he has not discussed the question so much in detail as could be desired; nor has he given definitely the number and character of the experiments upon which his conclusions, and the general principles drawn from them are based. His failure to do this, he thought, would render it impossible for any other investigator to repeat or confirm his experiments, and without such confirmation from a thoroughly reliable source, there would, of necessity, be much reserve on the part of scientific men, in accepting such important and far-reaching principles as are involved in his method for the prevention of rabies.

Having given a *résumé* of Pasteur's former method of rendering dogs refractory to rabies, which had proved slow and uncertain, as well as dangerous, in application, he proceeded to give a detailed account of his present method. The efficacy of the latter, he said, was proven by subjecting fifty dogs to these inoculations, with success in every instance, in rendering the animals refractory to rabies. After having arrived at these results, Pasteur felt justified, after consultation with Drs. Vulpian and Graucher, in subjecting to the process the boy, Joseph Meister, who unexpectedly presented himself for treatment, July 6, 1885. In order to determine the virulence of the virus used, two rabbits were each day inoculated in the usual manner with the same virus as that used for the boy. These inoculations showed that the cords used on July 6, 7, 8, 9, and 10 were not virulent, since they did not produce rabies in the rabbits inoculated on these days. The cords used on July 11, 12, 14, 15, and 16, however, were all virulent, and of a constantly increasing virulence. Rabies appeared after some days of incubation in the rabbits inoculated with the cords of July 15 and 16; after eight days, in those of July 12 and 14; and after fifteen days, in those of July 16. Notwithstanding that in the last inoculations, virus was used which was far more virulent than that of rabid dogs which had contracted the disease in the ordinary way, these inoculations were followed by no symptoms.

Up to the time of Dr. Biggs' recent visit to Paris, one hundred and forty patients had been inoculated. Referring to the one case in which death from hydrophobia resulted shortly after inoculation, he said that in explanation of the failure to prevent the appearance of the disease in this instance, Pasteur asserted that the period of incubation, as transmitted from the rabid dog, had elapsed before immunity had been secured (36 days having elapsed between the bite and the commencement of the inoculation), and that this explanation certainly seemed reasonable when it was remembered that the period of inoculation of rabies in the human subject, although usually more than thirty-six days, is not infrequently less than this time.

It was an interesting and serious question whether in this case the disease might not have been the result of the inoculation rather than of the dog-bite, and a solution of this question was obtained in the following way: The virus of a rabid dog, when transferred to a rabbit by inoculation under the dura mater after trephining, produces rabies, on an average, in fifteen days, while the most virulent cords used in the inoculations produce rabies with the greatest uniformity in seven days in rabbits, and in from eight to ten days in dogs. Pasteur asserted that if rabbits were inoculated in the usual manner with material from the brain or spinal cord of this child, if the disease in the child were produced by the inoculations, the rabbits would die of rabies, which declared itself after a period of incubation of seven days, but if the disease in the child was due to the inoculation made by the bite of the rabid dog, then rabies in the animals would not make its appearance until about the fifteenth day. Accord-

ingly, rabbits were inoculated from the child's brain, removed at the autopsy, and it was found that they died with the usual symptoms of rabies, which appeared on or about the fifteenth day. The result of this experiment was apparently satisfactory, though there might perhaps be a source of error in the possibility of the periods of incubation of the respective veins being altered by their passage through the human subject.

Having referred to the importance of determining whether the dogs biting the various persons treated really had genuine rabies, and discussed the period of incubation of rabies in man and in animals, Dr. Biggs said that as to the interpretation of the prophylaxis against the disease, Pasteur states that the alteration in the virulence of the rabic cords by the process of desiccation is explained on the supposition that the continuous contact of the dry air produces a gradual diminution in the intensity of the virulence of the cords until it finally becomes extinct; that the prophylactic method in its application depends for its efficiency upon the employment at first of a virus without appreciable activity, followed by a weak virus, and then by a more and more virulent form; that the diminution of the virulence of the cords is due to an impoverishment in *quantity* of the virus contained in the cords, and not to an impoverishment in virulence. Consequently, in the inoculations the virus used is always identical as regards its virulence, and is reliable only in respect to the quantity employed, so that the condition refractory to rabies follows from the employment of very small, but constantly increasing qualities of virulence.

This interpretation of the method of action of the virus was the more interesting as a new and quite different principle was involved from that obtaining in the vaccine for small-pox or the vaccines devised by Pasteur for the prevention of anthrax, chicken cholera and typhus in pigs. In small-pox we had a virus modified in character and virulence by its passage through another species of animal; in anthrax, chicken cholera and typhus in pigs, we had a virus modified in respect to its virulence by the conditions of temperature to which it had been subjected during its developmental growth, and finally, in rabies we had a prophylactic method dependent upon the employment of a virus always constant in its virulence, but used in very small and constantly increasing quantities. Apparently, then, already there had been three distinct methods discovered for the preparation of preventive vaccines for the different forms of contagious disease.

The theoretical principle had also been established by the researches of Pasteur, and more recently of Burdon-Sanderson, of the possibility of depriving cultures of pathogenic microörganisms of their virulence in a constant and persistent degree, without in any other respect affecting their morphological character. Taken in connection, these methods for preventive vaccinations presented almost unlimited possibilities in preventive medicine, and possessed a significance the importance and far-reaching nature of which could scarcely now be comprehended.

In discussing the conclusions to be drawn as to the accuracy of Pasteur's observations upon rabies and the efficacy of his method for its prevention, Dr. Biggs said that as to the first human subject inoculated, the boy, Joseph Neister, he could not but think, from the account given, that the dog which bit the lad was not affected with genuine rabies, and subsequent events had also shown that the same was probably true of the dog which bit the Newark children.

But however this might be, it seemed to him that the strongest evidence of the efficacy of Pasteur's method rested, not upon any results thus far obtained in the inoculation of human beings, but upon the results of his experiments on dogs. If he had been able to not only render fifty dogs refractory to rabies, without a single failure, but also had succeeded in preventing the development of the disease in a larger number of dogs after they had been bitten — both of which Pasteur asserted positively that he had accomplished — then the question as to the prevention of the disease in human beings was only as to the method of application. Dogs were far more susceptible and liable to the malady than human beings, and the character of the disease being evidently the same in both man and dogs, if dogs could be brought into a state refractory to the disease, certainly it would not be assuming too much to conclude that the same was true of the human being.

But, throwing aside the evidence which we now have at hand as to the efficacy of Pasteur's method — and he thought it must be said that it was not altogether satisfactory in character — Dr. Biggs went on to consider the probability of the correctness of these last observations from the light thrown upon the subject from his former work.

Does it seem probable, he asked, that the man who, in the earliest infancy of bacteriology disclosed the nature and cause of fermentation, and established our knowledge of it on a firm basis in the face of much opposition and skepticism, the man who disproved the theory of spontaneous generation, and laid the foundations upon which rest our whole system of antiseptic surgery, who disclosed the nature of the plague in silk-worms in France, and devised the methods for its prevention, who discovered the principles underlying the methods of protective vaccination in the diseases of animals, and has prepared the only practicable vaccines — does it seem probable that such a man has given nearly six years of continuous study to the consideration of rabies without achieving some substantial results? Or does it seem probable that he has been dealing all these years with some form of septicæmia, as has been suggested, laboring under the delusion, in the meanwhile, that it was rabies? This, he said, I cannot believe, and if it is not true, then Pasteur's conclusions must be in the main correct, for certainly no one will question his honesty.

Every great discovery in science has met with skepticism, opposition, and ridicule. . . . Pasteur's prophylactic method rests purely upon empirical grounds, and can only be fairly judged by the practical results obtained by its use. So far as we know at present, these have sustained the claims of its learned discoverer, and until they are refuted by further observations, we believe it is unjust to characterize the work of Pasteur, as has recently been done, as being founded on untrustworthy experiments and unsound reasoning, deserving to be rejected and condemned in the interests of humanity as well as science.

On the other hand, if future observations confirm the results that now seem to be at least probable, this discovery, added to his other achievements, will rank Pasteur as one of the greatest benefactors to his race that this generation has produced, and, from a scientific

standpoint, will be considered one of the greatest triumphs of the century.

DISCUSSION.

Dr. A. Flint, Jr., was opposed to accepting the statements of Pasteur on the ground that his results had not been subjected, as the work of all discoverers in physiological science required to be, to the test of central experiments, such as injecting under the dura mater of rabbits bouillon, without the addition of spinal marrow, etc. If investigators even as illustrious as Pasteur, such as Majendie and Claude Bernard, for instance, had attempted to introduce any new points into physiology which were not better supported by corroborative evidence than Pasteur's alleged discoveries, their statements would not have been accepted. Having spoken of the accuracy and logical sequence apparent in the researches of Jenner in the development of the discovery of vaccination, he said that this scientific accuracy had not appeared in anything that had as yet been published by Pasteur, or under his authority.

According to the older ideas, rabies was propagated only by means of the saliva of certain animals: but in his preventive inoculations Pasteur long since abandoned the use of saliva, and resorted to a method which was entirely artificial. It therefore became a vital question to determine whether these rabbits, in which injections of virus were made under the dura mater after trephining, were actually affected with rabies or not, and he remarked in this connection that he did not know whether or not any one had ever given a precise description of this disease as it appeared in rabbits. Pasteur, however, stated that the rabbits were rabid, and we were called upon to accept his dictum without any evidence whatever to support it. He had himself, in connection with various physiological investigations, experimented upon a large number of rabbits, and he knew that their delicate nervous organizations were very seriously affected by operation much less serious than trephining. But if by any such means as those professed by Pasteur a human being could be prevented from having rabies after exposure to the risk of the disease, it made, of course, no difference whether the rabbits used in the process had rabies or not. This was the practical point; but from a theoretical standpoint the condition of the rabbits was a circumstance of great importance.

With regard to dogs, Dr. Flint inquired if there was a single authenticated case of a dog contracting genuine rabies by inoculation from Pasteur's rabid rabbits. For such an alleged fact we had only Pasteur's own statements to depend on. Nor was it absolutely certain that any dog had ever been rendered refractory to rabies by Pasteur; and it was a necessary step in the application of the method to human beings to prove that dogs which had actually been bitten by a rabid dog had been rendered refractory to the disease. It was also pertinent to inquire whether dogs and persons rendered "refractory" by the Pasteur method are in reality refractory to rabies when conveyed into the system in the ordinary way, and this question, he thought, had not as yet been answered in a sufficiently definite and satisfactory way. Now, under our present knowledge of this subject, he doubted whether it was right to subject a human being to the possibility of inoculation with a poison which gives rise to one of the most frightful of all diseases, and in the case of the little girl who died after inoculation, he thought it was by no means certain whether the fatal result had not been the direct result of the process. If the Newark children were to be taken as samples of 325 cases which Pasteur had just reported to the Academy as successfully inoculated, the percentage of real successes in this number he thought must be extremely small; since it had now been substantially proven that the dog that bit these children was not mad, by the fact that not one of seven dogs which were also bitten by the same animal, and which had been confined and carefully watched, had exhibited any indication of rabies after the expiration of more than ninety days.

Dr. E. G. Janeway said that when in Paris in the early part of last summer, he had witnessed the process of inoculation, although it was before the method had been applied in a human subject. The key-note of the whole matter seemed to be whether these dogs had been rendered refractory to hydrophobia as conveyed in the ordinary way, and according to the testimony of Dr. Biggs and others he thought there could be little doubt that such was the case. Now if they had been rendered thus refractory, he could see no objection to carrying out the same plan of inoculation in the human subject in any case where an individual had been exposed to the risk of contracting the disease, especially since the method had, at all events, already proved innocuous in more than three hundred cases.

As to the spinal marrow being employed as the agent for transmitting the virus, it seemed to him entirely appropriate. The virus which was lodged in the wound made by the bite of a rabid dog, and from thence diffused throughout the system, was undoubtedly composed of living matter. While it was present in the saliva, therefore, the manifestations of the disease showed that the germ was also in the spinal cord and the medulla oblongata, or, if this was not the case, that it circulated as a specific poison in the blood, and thus acted as an irritant upon these nervous centres. In other analogous diseases the germ of the affection was found at or near the points of inflammation, and hence it seemed altogether appropriate to employ these parts for the purpose of inoculation.

As to the case of the Newark children, it was questionable whether the dogs bitten by the same animal as the boys, had been kept under observation for a sufficiently long period. In Berlin, under similar circumstances, dogs were confined for six months, instead of three.

In closing the discussion Dr. Biggs remarked that the answer to most of the questions which had been raised lay in the proof of the genuine nature of the disease with which Pasteur has been dealing, and this was a somewhat difficult matter to determine positively from an independent point of view. When in Paris, however, he had seen a number of cases of dogs which had all the typical symptoms of rabies contracted in the ordinary way, as these were described in the books. It was an indisputable fact that Pasteur had for years been experimenting with a disease which almost invariably in every instance runs the same course and produces the same symptoms, and the period of incubation of which is fifteen days in rabbits. If this affection was septicæmia, as had been claimed by some critics, it was an entirely new form of it. No variety of septicæmia was known which had a period of incubation in rabbits of fifteen days, and after cultivation of seven. In dogs the period of incubation was consid-

erably longer than this; while in septicæmia this period was never longer than eight or nine days. Again, no other disease was known, except rabies, which produced the symptoms noted in these cases, and always resulted in death.

Dr. Flint had suggested that in connection with the inoculations, control experiments ought to be made, such as the injection of bouillon without any portions of spinal marrow being added; but while this particular procedure had not been tried, so far as he was aware, it was a fact that inoculations had been made subcutaneously and into the veins, instead of under the dura mater after trephining, and the only difference that had been noted in the result was that the period of incubation was longer under these circumstances. The reason why Pasteur had adopted the method which he now employed, was because he had found after many experiments, that with it the period of incubation was shorter, and that the process was more certain than when any other was used.

As to the manifestations of rabies in rabbits, Pasteur distinctly declared that the disease had no pathognomonic manifestations in these animals. In them it was analagous to many forms of septicæmia, and it was on this account that he (Pasteur) was unwilling to accept the results of Fol's experiments which were practically based on the pathological conditions observed in rabbits after experiment. Therefore the only way to test the true nature of the disease resulting from inoculation was to inoculate dogs with the virus, and in them it had been found to manifest itself by symptoms which are believed to be unmistakably those of rabies.

As to the protection against the disease of dogs which had been bitten by other rabid dogs, Pasteur asserted positively that the most complete protection had been afforded in numerous instances. These animals were placed in cages together with dogs which were indisputably rabid, and having been bitten by the latter they were afterwards subjected to the prophylactic inoculations; and in not a single instance had rabies subsequently developed in them. These experiments had been repeatedly tried under the supervision of the official commission appointed to investigate the matter; and the evidence thus afforded he thought was of the greatest possible importance in establishing Pasteur's claim.

NEW YORK NEUROLOGICAL SOCIETY.

STATED meeting February 2, 1886.

LEONARD WEBER, M.D., Vice-President, in the Chair.

DR. C. L. DANA reported a case,

TOTAL TRIGEMINAL PARALYSIS WITH ALTERNATE HEMIPLEGIA,

and discussed the question of

THE NERVE OF TASTE.

The patient was a single man, aged thirty-five, under treatment by Dr. George L. Fox for eczema of the scalp. He had always been healthy, and gave no history of syphilis or excessive indulgence of any kind except in athletic sports.

In August, 1885, he was attacked with a trigeminal paralysis on the left side, affecting all of the sensory branches of the fifth cranial nerve, and to some extent probably the motor branch. The paralysis came on without any other complicating symptoms.

In December, 1885, he was attacked with a crossed hemiplegia, affecting the right arm and leg and the right side of the face. When seen by Dr. Dana in consultation, the paralysis was found to be not very complete, that of the face especially not being very marked. There were no sensory, and only very temporary speech disturbances.

There was complete anæsthesia in the distribution of the left trigeminus, but no loss of taste on either side of the tongue. The patient soon recovered in a considerable measure from his crossed hemiplegia, but the sensory paralysis remained unchanged.

In January, 1886, the patient had an attack of left hemiplegia.

DR. DANA discussed the question of the nerve of taste, and referred to the contradictory opinions at present held regarding it.

Most authorities now believe that the glosso-pharyngeal supplied taste to the posterior third of the tongue, and that the fifth nerve supplied the anterior two-thirds, sending fibres to it via Meckel's ganglion, the great superior petrosal, seventh nerve, and the chorda tympani. Gowers had recently declared that the sense of taste was supplied by the fifth alone.

The speaker presented a review of all the evidence so far collected, and came to the conclusion that the glosso-pharyngeal was probably the sole nerve of taste. In his own case the lesion was probably a small hæmorrhage in the lower part of the pons.

DISCUSSION ON DR. DANA'S PAPER.

DR. SAMUEL SEXTON said that ten years ago it was considered proper to divide the chorda tympani for tinnitus aurium, and it was supposed to have been done. This nerve has a long and circuitous course through the tympanic cavity, and is surrounded by a sheath of mucous membrane liable to inflammation in the acute purulent processes of the ear, especially in children. He had seen and studied a large number of cases in which, owing to acute purulent inflammations, there was complete destruction of tympanic contents, including the chorda tympani. There was no alteration of the sense of taste, though the tests to discover such an alteration were carefully made.

An Italian writer has called attention to the chorda tympani as a nerve in intimate connection with speech; that certain word sounds could not be found when it was absent. But Dr. Sexton's experience had not verified this. Taste was a complex function which was developed slowly by cultivation. When the tympanic membrane was absent, so that a probe could touch the inner wall of the tympanum, a variety of reflexes could be evoked, such as vomiting, coughing, sneezing; secretions, especially in the region of the tonsils and pharynx, were increased, as also the saliva.

DR. M. A. STARR reported ten cases of total anæsthesia following neuralgia of the trigeminus, in which there was no loss of taste. In his study of the lesions of the medulla and pons there was no record of loss of taste, though all of the cranial nerves, except the ninth and tenth, were involved. All of which would support the views advanced by the author of the paper.

DR. A. D. ROCKWELL had seen many cases, and instanced one in which there was neuralgia of the seventh and fifth pair of nerves, accompanied with loss of taste.

Dr. Dana, in closing the discussion, thought the cases cited by Dr. Sexton showed that the chorda tympani does not carry the nerve fibres of taste at all; that they were proof that they must take another course from that described by most of the text-books. It hardly seemed probable that they had so complicated an arrangement as that claimed by Gowers, which he showed by means of a diagram.

VASO-MOTOR NEUROSES.

Dr. M. Allen Starr, the author of the paper, said that under this title it was intended to include a series of disturbances of circulation and nutrition whose causation could be traced to disorders of the nervous system. He selected this subject because it was one which had been somewhat neglected in the discussions of this society, and because no definite summary of the present state of knowledge of the physiology of the vaso-motor action had lately been presented, and because he had recently seen a number of cases which might be classed together under this title, and which he wished to have discussed by the members present.

Disturbances of the circulation might occur in any part of the body, and were to be regarded not as distinct diseases of the parts in which they occurred, but as symptoms of lesions of the peripheral, or sympathetic, or central nervous systems. At the present time, however, it was impossible to make a pathological classification of these symptoms, and therefore they might be discussed together. In treating of the subject of vaso-motor neuroses the discussion of the physiology and pathology of the vaso-motor system could be united to advantage.

Since changes in the force and frequency of the heart's action and variations in the total amount of the blood in the body affect the body as a whole, the state of the circulation in any one organ or part depends largely upon the degree of contraction or dilatation of its vessels. This is known as the local vascular tone. It is under the control of the system of nerve ganglia, with their subservient fibres, which are found in the smaller arteries. The energy expended by these ganglia is manifest by a constant contraction of the circular muscular coat of the artery, a contraction which is constantly opposed by the dilating force exercised by the blood pressure within the vessel. In a state of health an exact equipose between these forces never occurs. Variations, however, in the vascular tone are produced either by local influence or by influences reaching the ganglia from a distance through the vaso-constrictor or vaso-dilator fibres. The constant manifestation of energy in the maintenance of arterial tone does not have its only source in the local ganglia, but is derived partly from the central nervous system through the vaso-constrictor nerves. Here the experiments of Claude Bernard were detailed. From these experiments it was concluded that a dilatation of the vessels follows: 1, a paralysis of the local ganglia in their walls; 2, separation of these from the sympathetic glanglia; 3, a destruction of the sympathetic ganglia; 4, a separation of these from the spinal cord by division of the anterior spinal nerve roots; 5, a disintegration of the cord; 6, a separation of these centres from the medulla; 7, the destruction of the medulla oblongata.

The action so far considered has been wholly of a vaso-constrictor kind, and the dilatation mentioned has been due to a suspension of constrictor energy, normally passing outward. This is a passive dilatation, but further experiments have shown that another kind of dilatation may be produced, due to an impulse of an active kind sent to the local ganglia by the vaso-dilators. This is an inhibitory impulse, arresting the constrictor action of the ganglia in the vessel walls in spite of the continued energy sent them from the central nervous system by the constrictors. Here the experiments on vaso-motor dilatation were given, and the various theories of the mechanism of dilatation in the vessel walls, it being concluded that there was no mechanism in the wall which could produce a dilatation, and that a dilatation was due wholly to the blood pressure within overcoming constrictor action.

The subject of vaso-motor reflexes was then taken up, and it was shown that the seat of these reflexes was in the dorsal region of the spinal cord, since all vaso-constrictors and vaso-dilatators can be traced to that region. The particular area of the spinal cord governing these reflexes was thought to be the gray matter surrounding the central canal and including the fascicular columns of Clarke. As bearing on this point the author referred to the observations by Jacubovitch, Schultze, and Furstner. It was impossible to say from these cases whether vaso-motor functions are located in the column of Clarke, or in the gray matter around the central canal, or in both.

Vascular tone of the thoracic and abdominal organs is regulated by centres in the pons and medulla. Experiments of Bernard were related, and cases of diabetes mellitus and diabetes insipidus produced by lesion of the medulla and pons were mentioned. The influence of the vaso-motors in producing functional disorders of stomach and intestines was alluded to.

From this review of physiological experiments and pathological facts it becomes evident that the disturbances of vascular tone which are included under the title vaso-motor neuroses may be produced by many different causes acting upon many different organs. The author here mentioned a number of possible causes and their location, after which he gave the histories of seven cases of vaso-motor neuroses, with remarks on the same. These cases seemed to illustrate some of the conditions which have still to be classed under the term vaso-motor neuroses from want of a more perfect knowledge of their nature. They appear to be little noticed in the books, and rarely discussed in societies; but they certainly merit careful study, inasmuch as they require cautious and scientific treatment.

DISCUSSION ON DR. STARR'S PAPER.

Dr. Sachs thought that some statements made by Dr. Starr elucidated some obscure points in experiments which he made several years ago on animals to discover the relation of the spinal cord to the secretion of the kidneys. Eckhardt had stated that section of the cervical spinal cord had the same effect as section of the medulla; that is, to inhibit the secretion. These experiments were difficult because of the necessity of keeping up artificial respiration, but they showed that urine was secreted as in health, though somewhat diminished in quantity. That it was actually secreted was proved by introducing chemical substances into the blood, the coloring matter of which was shown in the urine secreted. The results obtained by Eckhardt were probably due to peripheral irritation caused by laying bare the ureters which interfered with the secretion of the kidneys. He asked Dr. Starr what views

he advanced with reference to the course of the vaso-constrictor nerves.

DR. STARR replied that one theory was, that they passed from the lateral tracts of the cord through the fourth, fifth, and sixth cervical into the sympathetic system and thence to the viscera. Another was that they entered the sympathetic as far down as the level of the first dorsal. There was an intimate connection with the kidney. Experiments high up in the cord would of course produce diabetes.

DR. SACHS said that in his experiments high up in the cord there was no diabetes.

DR. C. L. DANA considered himself indebted to Dr. Starr for so able a paper. The local vaso-motor ganglia had been assumed to exist, but had never been satisfactorily demonstrated as physiological entities. Vaso-motor disturbances were common as symptoms, and were so considered rather than as a distinct disease. Accompanying them there were almost always marked sensory and trophic symptoms, especially if the vaso-motor disturbances were chronic, and had made an effect on the system. In this class of cases were those vaso-motor troubles of the extremities, such as digiti mortui, and mild types of renal disease; an independent disorder, flushing of the ears; Basedow's disease and diabetes, which should also be ranked among these. It gave rise to confusion to consider the vaso-motor system as independent, in the same way as the sympathetic system, forgetful of the relation of both of these to the cerebro-spinal.

DR. WEBER spoke of the connection of sciatica with diabetes. While sugar is found in the urine of patients suffering from protracted sciatica, there were few cases of well-developed diabetes in which there was sciatica. He related three cases of sciatica in which there had been sugar in the urine, and attending symptoms of diabetes. He had seen cases where sugar was present *after* sciatica; but he had doubted if true diabetes were developed by sciatica.

DR. LESZYNSKY related two interesting cases of vaso-motor disturbances. He questioned if cold was not a factor to be considered, since a case of symmetrical gangrene under his observation had relapses on cold days. Chilblains were common in winter.

DR. STARR, in closing the discussion, remarked that the vaso-motor local ganglia had been very recently demonstrated by French physiologists in frogs, rabbits, and cats. He did not intend to give the impression that sciatica caused glycosuria, but referred to those cases, quite a number of which were on record, where there was a sudden appearance of sugar in the urine which afterwards disappeared.

Recent Literature.

The Blot upon the Brain: Studies in History and Psychology. By WILLIAM W. IRELAND, M.D., of Edinburgh. New York: G. P. Putnam & Sons. pp. 374. 1886.

It is difficult to give an adequate idea of the import and value of this book in the limited space available. It is in many respects unique, treating, as it does, of out-of-the-way subjects in psychology — topics which are somewhat off the beaten path of such inquiry, but are none the less interesting and instructive.

The more connected portion of the book is a group of studies relating to the mental defects of historical personages. In these, the neuroses of several of the great ruling families are traced in a masterly way through a series of sketches of successive rulers. In thus investigating the family histories of these historical characters the writer has made a novel application of scientific methods, which goes far towards convincing one of the soundness of his conclusions.

He pictures very vividly the debasing effects of unchecked power — a point upon which he is particularly strong — in his account of the mental condition shown in the career of the Claudian-Julian family, particularly Drusus, Julia, Tiberius, Caligula, Messalina, Agrippina, Nero, Commodus, and Heliogabalus.

The neuroses of the Royal family of Spain are similarly demonstrated. There are chapters also, on Mahomet and Joan of Arc, which possess much historico-psychological interest. The paper on St. Francis Xavier, the Apostle of the Indies, is inferior to the rest in having little value as a psychological study, except possibly, as illustrating the power of a "fixed idea." The half-dozen remaining essays are of a more miscellaneous nature, and treat of Fixed Ideas, Unconscious Cerebration, Wordless Thought, Left-Handedness and Right-Headedness, Mirror-Writing, and the Dual Functions of the Double Brain. Here we make and renew acquaintance with a variety of useful facts, effectively utilized to demonstrate the writer's views, which are, in their turn, contributions of considerable value.

Although there is no lack of original investigation, the nature of such a work involves not a little draft upon the observations of others, but if compilation be a literary sin, crime is here made attractive. The book abounds in those little-known facts which being new or uncommon, surprise, entertain and instruct, and at the same time, give one the satisfactory sense of being kept abreast of the times on the subjects considered.

The style is in every way attractive, being concise and clear, yet easy and graceful. This is a conspicuous feature of the book.

We regard the volume as a contribution to historical literature of decided value, a desirable addition to our knowledge of psychological medicine, and entertaining and profitable reading to persons of culture not directly interested in mental science, a class which the author hopes also to attract.

How we Treat Wounds To-day. A Treatise on the subject of Antiseptic Surgery, which can be understood by beginners. By ROBERT T. MORRIS, M.D., late House Surgeon to Bellevue Hospital, New York, etc., etc. pp. 162. New York and London: G. P. Putnam's Sons (The Knickerbocker Press). 1886.

The enthusiastic author of this little manual attempts to present in a short and practical manner the detailed methods of wound-treatment in use among the so-called antiseptic surgeons of the present day. The first half of the book is devoted to a general consideration of different antiseptic agents, drainage tubes, sutures, dressings, and the like; the last half to the details in the treatment of certain typical wounds. There are eight or nine wood-cuts. Though the language which the author has chosen to give expression to his opinions is often far from dignified, and the style is frequently objectionable, yet the book is so thoroughly practical that it must be commended to those who wish to acquire an exact knowledge of the details of antiseptic treatment, which experience has shown to be productive of the best results.

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THE RELATIVE CAPACITY OF THE BRONCHUS AND LUNGS.

PROF. AEBY published in 1880, a work on the anatomy of the bronchial system, which at once became classical. It is not our purpose to discuss the interesting and original views that he advanced on the manner in which the branches are given off, and on the relations to the pulmonary arteries; but we shall confine ourselves to his views on the relative size and shape of the tubes. His method was to make accurate measurements of casts of the air-tubes in fusible metal. He announced, in opposition to such authority as Henle and Hyett, that the trachea becomes gradually larger from above downwards. At their origin, the area of the right bronchus is to that of the left nearly as two is to three, and as the latter equals half of the trachea, it follows that the combined areas of the bronchi considerably exceed that of the wind-pipe. The capacity of the right lung is to that of the left as 100:85, and that of the corresponding bronchi as 100:70.7.

Prof. Braune and Dr. H. Stahel have studied this question again in a very thorough manner. They represent the lungs as chambers to be aired, and the tubes as ventilating shafts. To begin with, they criticise Aeby's method, and, we think, justly. It is true that Aeby was careful to reject casts that showed signs of over-distension of the tubes, but, owing to the weight of the fusible metal, it is not possible that there should be no distortion. Those familiar with Braune's methods could predict with confidence that he would choose the freezing process for the purpose of making the parts rigid, with as little change as possible. Frozen sections of the trachea do not confirm Aeby's observations. On the contrary, it appears that it is smallest at its beginning below the cricoid; that it gradually expands to near its middle, where it is widest; that it then narrows, to expand once more from a point three cm. above the bifurcation. It appears, however, that the combined area of the bronchi at the bifurcation exceeds that of the trachea, taken three cm. above the bifurcation; and moreover, that the size of the bronchus is in direct ratio to that of the lung it supplies, which, by the way, had been approximately stated by Aeby. Braune and Stahel have, however, paid particular attention to this point, which, as we shall see later, is a cardinal one in their study.

The average of eleven series of measurements shows that the area of the right bronchus being 100, that of the left is 77.95. The left bronchus is smaller at the middle than at the beginning, and still smaller at the end; and finally, the area of either bronchus at the bifurcation is greater than the sum of the areas of its branches. We find, therefore, that between the beginning of the trachea and the openings of the branches of either bronchus, the air-passages, instead of being of uniform calibre, present two dilatations, one at the middle of the wind-pipe, and the other at its bifurcation. Essentially, similar proportions were found in the dog, the cat, and the sheep.

The relation of the size of the lung to the area of the bronchus was found by weighing the lung, the blood having been expelled, and by measuring the bronchus at its beginning. The average of five observations showed that the left lung was to the right as 74.9 is to 100, and the left bronchus is to the right as 75.5 is to 100. It will be observed that this statement of the relative sizes of the bronchi is not quite the same as that given above. Evidently, the series are far too small to give accurate results, but we may admit that there is a pretty close relation between the size of the bronchus and its lung.

Our authors then pass to the consideration of the question whether the formation of the bronchi (we presume not their first appearance, but their development), is due to physical causes. "If," say they, "the size of the bronchial tube depends on the volume of air which, in every inspiration, passes into the lung, an increase or diminution of this volume must imply a corresponding change in the size of the tube, providing always that physical antecedents have an influence in the matter. The volume of air going to the lungs depends on their capacity: we must, therefore, determine whether the relative size of the bronchi is altered in pulmonary disease." They accordingly made similar observations on emphysematous lungs, and found such a change as they had, no doubt, anticipated in the relative size of the bronchi. One case was particularly interesting. The left lung was slightly emphysematous, the upper lobe of the right one very much so. The left bronchus was to the right as 53.4 is to 100. Apparently, only the upper lobe of the right lung was much affected, and they found a remarkable change in the relative size of the first branch of the right bronchus. The lower branch of the right bronchus had been found in a series of five measurements of healthy lungs to be, the upper, on the average, as 100 is to 53.6, but in this case it was as 100 is to 73.4, showing a great increase of size in the tube of the affected lobe. The cases observed in which the capacity of the lung was diminished are fewer in number and perhaps less satisfactory, but

still seem to justify the author's conclusion that in diminution, as well as in increase of the volume of inspired air, there is a corresponding change in the capacity of the tube.

Interesting as we have found the paper, we cannot feel that the authors have established any new principle, or thrown light on the cause of the original difference between the bronchi. That the tube conveying air should become larger when more air is demanded, is a phenomenon perfectly analagous to the greater development of arteries when, from some pathological reason, any part demands a greater supply of blood. Clearly this mechanical cause cannot have been active in the embryo which has not yet breathed. Braune and Stahel admit the necessity of studies on embryos, but apparently they have been hampered by want of material. They also insist on the great difficulty of avoiding error, on account of the minute size of the air-tubes in the lungs of infants. Their forbearance speaks well for the accuracy of their work. They give the relative weights of the lungs of one new-born infant, in which the right was to the left as 100 to 85, which shows less difference than these authors find in the adult, but perhaps as much as some individual cases would present. In fact, the figures correspond precisely with Aeby's for the adult.

In conclusion, mention is made of a point concerning which anatomists are not agreed, namely, as to the difference in the height of the right and left pulmonary apices. Braune and Stahel adopt the view of the majority, that the right lung is the higher. Though disposed to criticise some parts of this paper, we must speak with sincere praise of the vast amount of careful work it has involved. We wish that similar investigations were more common in this community, and with our present facilities for original work there is no good reason why they should not be.

THE PROPOSED NATIONAL BUREAU OF PUBLIC HEALTH.

IN the JOURNAL of February 4th, attention was called to a bill for the establishment of a Bureau of Health in the Department of the Interior, introduced by Dr. Davis, of this State, and referred to the Committee on Commerce. This committee has now reported the measure to the House with some slight amendments and a recommendation for its passage.

An examination of the text of the bill shows that the proposed Bureau of Health avoids the difficulties which have so seriously impaired the efficiency of the present organization, no patronage is conferred upon the office and no executive functions are created, that can in any way touch the rights and powers of the States, or other departments of the Government.

The Bureau could utilize for the public benefit the vast collection of facts already in the possession of the General Government, or that can easily be obtained by it, the information in the State department obtained from consular officers abroad, the statistics of mortality and disease that can be furnished by a very large number of cities and towns throughout the land, only available now by an investigation of many hundred separate documents, which cannot at present be found together in any one place, and yet of great importance as showing the prevalence of diseases in some one part of the country, which experience has taught will appear in certain other portions, where timely warning would lead to the preparation of measures of prevention.

In the census reports for 1850, '60, '70 and '80, attempts have been made to furnish statistics of mortality and disease, the director of the vital statistics of the census of 1880 remarks:

"The fact that it is impossible in any large community to collect complete and reliable data with regard to births and deaths, by means of an inquiry made only at the end of the year for which the data are desired, is well known to all who are familiar with the subject of vital statistics, and the experience of the United States census furnished no exception to this rule. But as the United States has no system of registration of vital statistics, such as is relied upon by all other civilized nations, for the purpose of ascertaining the actual movement of population, our census affords the only opportunity of obtaining even an approximate estimate of the birth and death rates of much the larger part of the country, and the data which the census gives, imperfect as they are, are the only ones by which we can compare the healthfulness of this with that of other countries, or can ascertain, even approximately, the relative salubrity, or liability to particular forms of disease, of different parts of our own territory." The Bureau could do much to supply the deficiencies above noted.

In this connection the Committee on Commerce in recommending favorable action wisely say: "At present every new census is obliged to recreate forms for vital statistics, and each census has had a method of its own. The Bureau could do much of this preliminary labor and its experience would be of the greatest value to the superintendent in charge of the work. It would be of even greater value in stimulating various portions of the country to a more active interest in their respective vital statistics than the census authorities, because this Bureau is permanent and its action continuous."

The concluding sentences of this report are as follows: "The rules for which provision is made in the third section of the bill would, as a measure of common prudence, be framed after consultation with the various State Boards of Health and the quarantine officers of the principal ports. Requirements for the satisfactory condition of ships, crew, cargo, and passengers, would, if agreed to by the quarantine officers of the ports of the country, go far toward producing uniformity, where now the greatest diversity exists, to the detriment of commerce and to the menace of the public health; and, finally, it being the province of the

Bureau, not only to investigate the nature and origin of contagious and infectious diseases, but also to devise measures for their prevention or control. Congress, relying upon its competency, would not, in the event of the invasion of yellow fever or cholera, be likely to pass, under the spur of popular apprehension, hasty or inconsidered and improvident legislation.

It may be urged that all the work contemplated in the establishment of this Bureau could be equally well done by the medical officers of the army, the navy, or the marine-hospital service. These services are, however, created for limited and special purposes, and their officers have not the general training possessed by the sanitary officers of civil life, who deal with men, women and children under differing conditions of age, occupation, and habits of life."

POETRY AND TOXICOLOGY.

Poetic license includes many departures from actual reality; this is nowhere better illustrated than in the manner in which poetic writers (and novelists are generally no more deserving of credit for scientific accuracy of statement on these points) have dealt with the subject of poisons and empoisonments.

Shakespeare's "cursed hebanon" has been popularly supposed to be the *nicotianic tabacum*, whose crude oil, poured into the ears of Hamlet's father caused the death of the unfortunate king. But this supposition involves a monstrous anachronism, and moreover there is no derivative of the plant in question which would have produced just the effect which Hamlet's father's ghost describes in those immortal lines.

The sleeping potion which in Scene I, of Act IV, of Romeo and Juliet, the friar administers to Juliet never could have had any real existence except in the imagination of the poet. There is no drug known to science which produces or could produce such effects:

> "Take thou this phial, being then in bed,
> And this distilled liquor drunk thou off;
> When, presently, through all thy veins shall run
> A cold and drowsy humor; for no pulse
> Shall keep his native progress, but surcease.
> No warmth, no breath, shall testify thou livest;
> The roses in thy lips and cheeks shall fade
> To paly ashes; thy eyes' windows fall
> Like death when he shuts up the day of life;
> Each part, deprived of supple government,
> Shall stiff and stark and cold, appear like death:
> And in this borrowed likeness of shrunk death
> Thou shalt continue two and forty hours,
> And then awake as from a pleasant sleep."

Nothing in the Arabian Nights Entertainments is more foreign to real life than is the above to the actual results of every known poison, in whatever dose administered.

The crimes of the Borgia family were detestable enough, and there is reason to believe that all of this family not excepting the infamous Lucretia, (and this we say despite the whitewashing of the latter by Mr. Astor in the *North American Review*) on numerous occasions accomplished their vile ends by poison. If we may credit Victor Hugo, whose great tragedy, Lucrèce Borgia, embodies the popular tradition, the art of poisoning was carried to such perfection by this family that noblemen shrank from invitations to their dinners as from a sentence of death, and with the extinction of the line toxicology has almost become a lost art! It is safe to say, however, that Victor Hugo has here given us a picture of the imagination which has no exact counterpart in the reality. Take, for instance, what the courtier (who is supposed to know) says in Act I, Part II: "The Borgias have poisons which kill in a day, or in a year, at their pleasure. They are infamous poisons, which make wine pleasanter to the taste, so that guests empty their glasses the sooner. You think yourself only drunk, and you are a dead man. Or here is a case such as often happens: A man all at once falls into a languishing state; his skin becomes wrinkled, his eyes sunken, his hair turns white, his teeth become brittle as glass and break to pieces while he eats: he cannot walk, but he drags himself along; he no longer breathes but rattles (*il râle*); he no longer laughs, he no longer sleeps, he shivers in the mid-day sun: a youth, he has the air of an old man, he thus pines away for a time and then dies. After he is dead his friends remember that six months before he drank a glass of Cyprian wine with a Borgia."

As unreal is the antidote which Lucretia Borgia gives to her son, whom she tries to deliver from the effects of the lethal potion which Don Alphonse had made him drink.

> "You are poisoned, Gennaro!"
> "Poisoned, Madam?" . . .
> . . . "Yes, poisoned, and there is no time to lose. It is a poison the very thought of which makes every Italian turn pale who knows the history of the past twenty years. . . . Nobody knows any antidote to this terrible poison but the Pope and myself. . . . Here, take this vial, quick! . . . One single drop on your lips, and you are saved!"

It is needless to say that nothing is more imaginative than the above; the Borgias possessed no poisons which imparted to wine a more delicious flavor, which gave time to actors to make and listen to long harangues before sensible effects were produced then killed them quite suddenly with the symptoms of ordinary drunkenness; poisons, too, for which an antidote existed, a few drops of which taken into the system would instantly neutralize the effects of the virus. When Xenophon describes the event of the drinking by Socrates of the decoction of hemlock, he paints a scene of which the scientific accuracy is acknowledged at the present day; but half of the stories of the poisoning by the Borgias we discredit as not being conformable in their details to the phenomena attending the operation of any toxic substances known in that or any other age.

While poets and novelists are not amenable to exactly the same rules of criticism as historians or scientists, their domain being the realm of fiction and imagination, yet it is unquestionably a great merit to make the creations of the imagination conformable to the nature of things, (that is, truth), and only by such conformity can the highest ideal of literary art be attained.

MEDICAL NOTES.

— The *Philadelphia Medical Times* suggests that Dr. J. M. Da Costa would be the most worthy successor to the late Dr. Flint as president of the Congress.

— The will of the late Dr. Austin Flint, leaves his entire medical library, except any books that his family may wish to keep, to the New York Academy of Medicine.

— Thomas Spencer Cobbold, M.D., F.R.S., an eminent English scientist, is dead. He was born May 26, 1828, and was educated at Edinburgh. He was distinguished for his original investigations in helminthology.

— Among recent deaths in the medical profession have been Dr. J. H. Kane, of Wilmington, Del., a brother of the Arctic explorer, Elisha Kent Kane. He was surgeon of a relief expedition which went to the Northern seas in 1856, for the relief of his brother.

— Queen Victoria attended and laid the foundation-stone of the new Examination Hall of the Colleges of Physicians and Surgeons, upon the Thames embankment, last week. The act is considered by the English physicians as a high and peculiar honor paid by her majesty to the medical profession.

— D. Bochefontaine, chief of Vulpian's Laboratory at the Hôtel Dieu, is dead. He will be remembered as having swallowed some of the comma bacilli a year or so ago, in disproof of the theory of their etiological relation to cholera. He was a determined adversary of Pasteur. His age was forty-five.

— Falsification of death certificates, even when prompted by a wish to avoid wounding the feelings of relatives, is in some localities a serious matter. Two St. Petersburgh practitioners who attended a girl who had poisoned herself with opium, yielded to the entreaties of the parents and gave a certificate that the cause of death was "heart disease," so that no difficulty might arise about the burial. The case, however, came before the law courts, and in spite of the defence set up that the certificate was not an official document, but intended solely for the use of the statistical department, the two doctors were condemned to two days' imprisonment and a fine of ten roubles ($5).

NEW YORK.

— The bill entitled "An Act for the Better Preservation of the Health of Children in Institutions," which was prepared by the Committee appointed by the Academy of Medicine in June last, to make an investigation of the prevalence of communicable eye-disease in asylums and industrial schools, has been reported favorably upon by the Senate Judiciary Committee at Albany.

— State Senator McMillan has introduced in the Legislature a bill which provides for the appointment of a commission to investigate and report upon the most humane method of inflicting capital punishment. This is largely due to the efforts of Dr. A. P. Southwick, of Buffalo, who has devised a process for the production of instantaneous death by the application of a strong current of electricity to the medulla oblongata.

— At the New York County Medical Society, March 22d, Dr. L. Duncan Bulkley read a paper on the "Relations between Diseases of the Skin and Disorders of other Organs," and Dr. Stephen Smith one on "The Effects of High Temperature on the Public Health of the City, and the Measures for their Prevention." The latter was mainly devoted to a plea for the planting of shade trees as a means of diminishing the extreme mortality of the summer months by moderating the temperature of the atmosphere. In addition, Dr. Smith advocated flushing of the streets with water, and the daily regulating and equalizing of bodily temperature by artificial means, such as public baths.

— The mortality records of the city of New York, showed that June to September, inclusive, the average number of deaths was about four thousand greater than in any other four months of the year, and on investigation, it was found that the death-rate during this period rises and falls with the temperature. As nearly all of down-town New York was brick and stone, it was naturally impossible for children and the aged living amid such surroundings to accommodate themselves to the conditions of heat that often prevail. Baths, shade, and fresh air being beyond the reach of a majority of the population, especially of those living below the lower line of Central Park, he thought it time that attention was given to the most easily obtained of these cooling agents. The down-town parks were few, and poor in vegetation. Stone and brick houses became like ovens. Add to this the foul emanations from decomposing vegetable matter, and it was no wonder that the results were serious.

As to the efficacy of vegetation in modifying the heat of summer, Dr. Smith said that an acre of grass gave the air 6,400 quarts of moisture in twenty-four hours; but there are even better coolers. The old Washington elm at Cambridge, although not very large, exposed to the air a surface in leaves equal to five acres of low vegetation. Trees kept an even temperature of about 55°, while the temperature of an exposed pavement on Fifth Avenue on a hot day had been found as high as 130°. When this test was made, a thermometer in the shade of a tree near by recorded only 70°. In conclusion, he read the draft of a bill entitled: "An Act to Secure the Increase and Protection of Shade-Trees in the Streets, Avenues, and Public Squares and Spaces in the City of New York," which had been prepared with a view to legislative enactment, and asked that it should be referred to the Committee on Hygiene with the approval of the Society. Dr. Bulkley having moved to amend by including additional water-supply for flushing the streets, and the amendment being accepted, the matter was referred to the Committee named, with power to act for the Society.

PHILADELPHIA.

— The University of Pennsylvania will hold its Commencement May 1st. Prof. Jos. Leidy has been announced to deliver the address. The annual meeting of the Alumni Association was held March 26th, Dr. Chas. Gilman Smith, of Chicago, was the orator.

— In this column, a short time ago, reference was made to the successful treatment of chorea by hyoscyamine in the case of a boy at Pennsylvania Hospital, under the care of Professor Da Costa. The boy was discharged well, but was readmitted a few weeks later, suffering with pericarditis; but during that attack it is worth noting that there was no return of the chorea.

WASHINGTON.

— The following Bill to prevent the introduction of contagious and infectious diseases into the United States, and to establish a Bureau of Public Health, was introduced by Congressman R. T. Davis of Fall River, reported favorably by the Committee on Commerce, and is now before the House of Representatives for action: —

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That there shall be established in the Department of the Interior a Bureau of Public Health. There shall be appointed from civil life by the President, by and with the advice of the Senate, a Commissioner of Health, who shall be intrusted with the management of the Bureau herein established. He shall be paid an annual salary of four thousand five hundred dollars. For his use the Secretary of the Interior shall provide suitable offices, and, with the approval of the same, he shall employ such assistants and clerks as may be necessary.

SEC. 2. That it shall be the duty of the Department of State to obtain from the consular officers at foreign ports and places all available information in regard to the sanitary condition of such ports and places, and to transmit the same to the Bureau of Health; and said Bureau shall also obtain, through all sources accessible, including State and municipal sanitary authorities throughout the United States, weekly reports of the sanitary condition of ports and places within the United States; and shall prepare, publish and transmit to the medical officers of the Marine Hospital Service, to collectors of customs, and to State and municipal health officers and authorities, weekly abstracts of the consular sanitary reports and other pertinent information received by said Bureau; and shall also, as far as it may be able, by means of the voluntary cooperation of States and municipal authorities, of public associations and private persons, procure information relating to climatic and other conditions affecting the public health; and shall make an annual report of its operations to Congress, with such recommendations as it may deem important to the public interests; and said report, if ordered to be printed by Congress, shall be done under the direction of the Bureau. That the necessary printing of the Bureau of Public Health shall be done at the Government Printing Office upon the requisition of the Commissioner of Health, in the same manner and subject to the same provisions as other public printing for the several Departments of the Government.

SEC. 3. That the commissioner of Health shall, under the direction of the Secretary of the Interior, frame rules which, when approved by the President and issued by the Department of State, shall serve for the instruction of consular officers of the United States and of the medical officers serving at any foreign port. In compliance with these rules, every master of a vessel destined for a port of the United States shall be furnished with a certificate containing a detailed statement of the inspection of the vessel, cargo, crew and passengers, and of the sanitary measures carried out at the expense of the vessel; or if such measures are not carried out, instant warning shall be transmitted to the Bureau, who shall immediately notify the quarantine authorities of the port of destination.

SEC. 4. That the Bureau of Public Health shall, with the approval of the Secretary of the Interior, make investigations, both in the United States and, if necessary, in foreign countries, into the nature, origin, and prevention of contagious and epidemic diseases, as well as the causes and conditions of particular outbreaks of disease in the United States, and shall publish and distribute documents relating to the prevention of disease.

SEC. 5. That the President is authorized, when requested by the Bureau of Public Health, and when the same can be done without prejudice to the public service, to detail officers from the several Departments of the Government for temporary duty, to act under the direction of said Bureau, to carry out the provisions of this act; and such officers shall receive no additional compensation except for actual and necessary expenses incurred in the performance of such duties. When a detail of suitable officers cannot be made, the Commissioner of Health may employ such experts, and for such time and in such manner as the funds at the disposal of the Bureau may warrant, subject to the approval of the Secretary of the Interior.

SEC. 6. That to defray the expenses incurred in carrying out the provisions of this act the sum of seventy-five thousand dollars, or so much thereof as may be necessary, is hereby appropriated, to be disbursed under the direction of the Secretary of the Interior, on the requisition of the Commissioner of Health.

SEC. 7. That an act entitled "An act to prevent the introduction of contagious and infectious diseases into the United States, and to establish a National Board of Health," approved March third, eighteen hundred and seventy-nine, and all other acts and parts of acts conflicting with the provisions of this act, are hereby repealed.

SEC. 8. That this act shall take effect sixty days after its passage, within which time the Commissioner of Health shall be appointed.

Miscellany.

THE SPECIALISTS.[1]

'Mid sulphurous fumes, in antiseptics rich
Enough to please our Peters — cure the itch,
Great Satan sat, dark frowns upon his face,
As when one finds another 's got his case.
Fiercely he muttered: "Twenty doctors more
"Within two days have come within my door,
"And now at last — the news quite strikes me dumb —
"The porter says some Specialists have come.
"Should old ambitions once these fellows seize,
"If they put out their signs, take in their fees,
"Sure all my toils of little use would be,
"Then I must go, this is no place for me."

The Demon rose, and shook from off his coat
The yellow films of *U. S. Sulphur lot.*,
Uttered a cough which all Hell's regions racked.
And ordered out his baggage, to be packed.
"I 'll up to Earth," he said, "for I must know
"Why doctors are now rattled on me so."
Out into space he shot,— a curious sight,
The Devil bent on setting things aright.

Now, since he knew the Old World quite too well
To try to keep the doctors there from — She'll,
He went to Boston, thinking that perhaps
Since Holmes 'd resigned he there would find a lapse,
(I pray my hearers to remove their frown —
I mix the Devil with so good a town
Because poetic doctors who must rhyme with pills
Can do it best where there are seven hills;
I 'm sure, myself, that half the fame of Holmes
From this unevenness of Boston comes.)
And so from off her very highest mound
Our new Asmodeus cast his eyes around:
He saw the doctors' gigs below him creep,
He thought the ruts they rode in rather deep;
He saw great doctors whom big fees did fatten,
He saw the lady-doctors whom they sat on.

He saw a college, beautiful and old,
He saw another where degrees were sold;
He saw our Art lift up its banners high,
But saw that quacks and mind-cures were close by.
Yet 'midst it all he found such virtues grew —
The righteous rigid, but the wicked few;
The Devil thought, "I 'll let this place alone,
"The case is one of gravel, not of stone."
(The simile is old, but then I might
In Boston be a little litho-trite.)

As when a meteor skims earth's airy shell,
Or doctor jumps at the obstetric bell,
So Satan, leaving ancient Boston, down
He in one breath flew to a Quaker town —
(A town, dear friends, of which you've heard some talk;
Its people say it 's better than New York.)
A pleasant spot he finds it, not so well
Supplied with water as his place in Hell,
But rather home-like still; for sure I am
This want of water makes the Quaker Damn.
He heard the doctors at their night retreats
Where each one shows how well he patients treats,
Exhibits cases, and his heart unloads
On lady-doctors, globules, and new codes.
He found one pass-word every house to enter,
'T was: Philadelphia's — medicine's great centre.
Of course, with specialists he 'd much to do.
They each, he found, could tell him something new.

"But, after all," he said, "I do not find
"The doctors here need much disturb my mind;
"A few bad books I 'll leave, their hearts to leaven.
"I think a decent share will get to Heaven."
'T is sweet to find our brethren reach that level
That they can thus completely cheat the Devil.

With anxious heart the Demon now sat down
Upon the boat which bears him to this town;
"For sure," he said, "unless all stories lie,
"The doctors there are all much worse than I."

As when, before, the crash of heavenly arms
Awoke all space with hideous Hell's alarms,
So now loud thunders start our traveller's fears —
The Jersey ferry blew up round his ears.
High up the Demon flew; he has no choice
When Jersey corporations lift their voice.
He ne'er before 'd been thrown to such a level,
Tho' oft on earth his friends had "raised the devil."
But down he fell at last, some dozen miles,
As the swift hammer settles on the piles;
But in his case the truth of history is,
The hammer was the earth, the piles were his.

A much bruised party rose from up the ground,
He 'd every ill that 's in the body found —
A spine concussed, a fractured bone or two,
A dozen sprains, his skin quite black and blue,
Disordered function of each inner part,
Uneasy stomach, damaged lungs and heart,
But sweet philosophy some comforts bore,
"I don't mind much," he said, "I 've fallen before,
"And sure the fates do in my cause enlist
"To fit me for each New York specialist."
Some heavy drafts he then on Mammon drew,
And set out for such doctors as he knew.
These were not many — though the truth to know,
Some New York doctors advertise below.

His cracked patella first for help he tried,
And twenty surgeons twenty splints applied,
While those who in their antiseptics trust
Bound him with bags of Pilcher's best sawdust.
At last they wired the bones, which pleased him so,
He wired the news of it to friends below.

His shaken spine he next for comfort turned,
And learned again the cost of getting burned;
For here Neurology had ta'en her part,
So great her Science, and so small her Art!

Now, since the Devil left the heavenly gate,
He 'd not been famed for walking very straight;
So he his way to orthopædists traces,
Harmonious children of a thousand braces.
When through, he said, "This is a curious rank,
"For every brace they gave me had a crank,
"Excepting one — and I must take him home —
"'T is that which runs th' electric osteotome."

It is not strange — at least it is a fact —
That Satan's *falls* had caused a *cataract*;
Or that, with all the errors to him due,
Some errors in refraction he had too.
Some learned eye-men, therefore, soon were seen,
Who ply the art that 's based on cocaine,
Atropia sulph., some glasses and the trick
Of snipping off the iris double-quick.
But great among the specialists they rise,—
They made the Devil open both his eyes,
And soothed them, so that when no longer sore
Th' insatiate patient clamored still for Moore.

Among the throat men then he spent a day;
Their art, he saw, was but a wash and spray,

[1] Read at the Annual Dinner of the Faculty of the New York Post-Graduate Medical School and Hospital, March 11th, 1886.

Besides, he found they 'd stolen his own wares,
And caught their victims all in painful snares.
Some pleasures still in Satan's lot prevail,
For he at least unquestionably is male.
For him no gynecologist could seek
Within persuasive specula to peek,
Or, with some learned name his troubles labelled,
Like Parliamentary motions, have him tabled.
I 'm sure that once the Devil stopped and prayed,
'T was when he found that he could not be spayed.
(O gentle Art, I 'm sure I am not blind
To all the good you 've done for womankind;
But once 't was woman's part to cut and sew,
While now to cut and sew her parts you go

Too oft', perhaps. Might it not be a gain
If you made less of womb and more of brain?)

My story 's done. Satan, not now forlorn,
Went to his home. (He took iodoform,
"For not," he said, "In all my realms below
"Does any perfume please my senses so.")
His fright o'er specialists had left him, too,
He 'd seen how well Post-Graduate Schools can do,
"Since this succeeds," he said, "I need not fear.
"I 'll never have too many doctors here."

Dear friends, I think that this will be no evil,
We 'll treat the poor, and never mind the Devil.

REPORTED MORTALITY FOR THE WEEK ENDING MARCH 20, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Typhoid Fever.	Diphtheria and Croup.	Whooping Cough.
New York	1,340,114	758	243	15.73	13.91	1.04	7.02	2.34
Philadelphia	927,995	457	146	12.10	13.20	3.30	4.84	.88
Brooklyn	644,526	—	—	—	—	—	—	—
Chicago	632,100	—	—	—	—	—	—	—
Boston	390,406	200	55	9.50	17.50	1.00	4.50	—
St. Louis	408,520	174	66	15.12	16.80	1.12	5.60	2.24
Baltimore	400,000	—	—	—	—	—	—	—
Cincinnati	272,400	121	42	10.79	17.43	1.66	3.32	1.66
New Orleans	234,000	125	31	5.60	16.00	—	.80	—
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	81	18	9.84	24.60	2.46	1.23	1.23
Pittsburgh	180,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	—	—	—	—	—	—	—
New Haven	62,882	—	—	—	—	—	—	—
Charleston	54,400	29	10	6.90	10.35	3.45	—	—
Nashville	52,286	27	9	11.11	25.90	—	—	—
Worcester	68,383	24	13	16.64	4.16	—	4.16	—
Lowell	64,051	29	9	10.35	20.70	6.90	—	—
Cambridge	59,660	31	5	3.23	19.38	—	3.23	—
Fall River	56,863	—	—	—	—	—	—	—
Lynn	45,861	18	6	—	16.66	—	—	—
Lawrence	38,825	8	2	—	12.50	—	—	—
Springfield	37,577	—	—	—	—	—	—	—
New Bedford	33,393	14	5	—	28.56	—	—	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	14	4	—	14.28	—	—	—
Holyoke	27,894	11	3	—	9.09	—	—	—
Chelsea	25,709	13	8	7.69	31.76	—	7.69	—
Taunton	23,674	7	1	—	42.84	—	—	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	3	2	66.66	33.33	—	66.66	—
Brockton	20,783	6	1	—	16.66	—	—	—
Newton	19,759	5	0	—	—	—	—	—
Malden	16,407	5	0	—	8.00	—	—	—
Fitchburg	15,375	5	2	4.00	8.00	—	—	—
Waltham	14,609	4	0	—	—	—	—	—
Newburyport	13,716	7	2	—	14.28	—	—	—
Northampton	12,896	7	4	—	—	—	—	—
93 Massachusetts Towns	—	49	7	6.12	24.48	2.04	—	—

Deaths reported 2,232: under five years of age 694; principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 270, consumption 353, lung diseases 344, diphtheria and croup 106, typhoid fever 34, whooping-cough 29, scarlet fever 27, diarrhœal diseases 21, malarial fever 15, cerebro-spinal meningitis 14, erysipelas nine, measles six, puerperal fever six, typhus fever two. small-pox one. From scarlet fever, Philadelphia ten, New York eight, Boston three, Baltimore and Cincinnati, two each, Marblehead and North Andover one each. From diarrhœal diseases, New York ten, Philadelphia three, Cincinnati and New Orleans two each, Boston, Baltimore, Worcester and Lowell one each. From malarial fever, New York seven, Baltimore four, New Orleans three, District of Columbia one. From cerebro-spinal meningitis, New York seven, Nashville two, Philadelphia, Boston, New Orleans, Worcester and Fitchburg, one each. From erysipelas, New York four, Boston two, Cincinnati, District of Columbia, and Charleston one each. From measles, Baltimore five, New York one. From puerperal fever, District of Columbia two, New York, Boston, Cincinnati and Nashville one each. From typhus fever, New York two. From small-pox, New York one.

In 112 cities and towns of Massachusetts, with a population of 1,290,493 (population of the State 1,941,465), the total death-rate for the week was 18.54 against 17.41 and 17.35 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending March 6th the death-rate was 26.6. Deaths reported 4,630: infants under one year of age 1,021; acute diseases of the respiratory organs (London) 745, whooping-cough 171, measles 101, diarrhœal diseases 42, fever 31, scarlet fever 28, diphtheria 27, small-pox (Liverpool two, Brighton one) three.

The death-rates ranged from 36.4 in Blackburn to 17.9 in Brighton; Birkenhead 25.2; Birmingham 22.3; Bradford 24.0; Hull 18.0; Leeds 26.5; Leicester 20.6; Liverpool 29.6; London 26.9; Manchester 33.5; Nottingham 24.2; Sheffield 20.6.

In Edinburgh 22.5; Glasgow 30.3; Dublin 30.1.

For the week ending March 6th in the Swiss towns, there were 34 deaths from consumption, lung diseases 26, diarrhœal diseases 11, whooping-cough four, puerperal fever three, typhoid fever two, scarlet fever one, diphtheria and croup one.

The death-rates were: at Zurich 15.3; Geneva 14.1; Basle 22.2; Berne 26.7.

The meteorological record for week ending March 20, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps. —

Week ending Saturday, Mar. 20, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday, ...14	29.854	35.8	44.0	26.1	70.0	48.0	69.6	62.3	W.	W.	W.	23	19	5	F.	F.	O.	—	—
Monday, ..15	30.062	34.7	38.5	31.7	73.0	84.0	91.0	82.7	N.E.	E.	E.	7	18	4	O.	C.	C.	—	—
Tuesday, ..16	29.923	37.8	50.7	34.2	98.0	82.0	69.0	83.0	E.	N.	N.W.	3	15	13	G.	O.	O.	—	—
Wednes., .17	30.235	32.8	37.0	28.4	68.0	78.0	67.0	71.0	N.W.	S.E.	S.W.	14	12	6	C.	C.	C.	—	—
Thursday, 18	30.142	39.6	51.1	29.3	79.0	43.0	64.0	62.0	W.	N.W.	N.	8	12	14	C.	C.	C.	—	—
Friday, ...19	30.115	32.7	36.8	27.4	73.0	79.0	96.0	82.7	E.	E.	S.E.	9	8	6	C.	O.	N.	—	—
Saturday, 20	29.911	34.7	36.1	30.4	100.0	100.0	100.0	100.0	S.E.	E.	E.	9	19	30	R.	R.	R.	36	0.93
Mean, the Week.	30.035	35.4	42.0	29.7				77.7											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MARCH 20, 1886, TO MARCH 26, 1886.

COCHRAN, JOHN J., assistant surgeon. Ordered for duty as post surgeon, Fort Mason, Cal.

POTHEMUS, A. S., assistant surgeon. Ordered for duty at Presidio of San Francisco, Cal. S. O. 18, Department of California, March 15, 1886.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING MARCH 27, 1886.

MARTIN, H. M., surgeon. Detached from "Independence," and ordered to the "St. Louis."

GUITERAS, D. M., passed assistant surgeon. Detached from Navy Yard, Pensacola, and wait orders.

ROSS, J. W., surgeon. Detached from special duty, New York, and ordered to Pensacola.

ECKSTEIN, H. C., surgeon. Detached from the "St. Louis," and placed on sick leave.

MEANS, V. C. B., assistant surgeon. Detached from the "Vermont," and ordered to the "Shenandoah."

BEAUMONT, N. H., surgeon. Detached from the "Enterprise," and wait orders.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE FOR THE WEEK ENDING MARCH 20, 1886.

BAILHACHE, P. H., surgeon. Detailed as chairman, Board of Examiners, March 15, 1886.

FESSENDEN, C. S. D., surgeon. Detailed as member, Board of Examiners, March 15, 1886.

PURVIANCE, GEORGE, Surgeon. Detailed as recorder, Board of Examiners, March 15, 1886.

ASTLEY COOPER PRIZE.

The next triennial prize of three hundred pounds, under the will of the late Sir Astley P. Cooper, Bart., will be awarded to the author of the best essay or treatise on "The Origin, Anatomy, Results, and Treatment of Tubercular Diseases of Bones and Joints."

The conditions annexed by the Testator are, "That the essays or treatises to be written for such prize shall contain original experiments and observations, which shall not have been previously published; *and that each essay or treatise shall* (as far as the subject shall admit of) *be illustrated by preparations and by drawings*, which preparations and drawings shall be added to the Museum of Guy's Hospital, and shall, together with the work itself and the sole and exclusive interest therein and the copyright thereof, become henceforth the property of that Institution, and shall be relinquished and transferred as such by the successful candidate."

And it is expressly declared in the will "that no physician, or surgeon, or other officer for the time being of Guy's Hospital or of St. Thomas's Hospital, in the Borough of Southwark, nor any person related by blood or affinity to any such physician or surgeon, for the time being, or to any other officer for the time being in either of the said hospitals shall at any time receive or be entitled to claim the Prize." But with the exceptions here referred to, this prize is open for competition to the whole world.[1]

Candidates are informed that their essays, either written in the English language, or if in a foreign language, accompanied by an English translation, must be sent to Guy's Hospital on or before January 1st, 1889, addressed to the physicians and surgeons of Guy's Hospital.

Each essay or treatise must be distinguished by a motto, and accompanied by a sealed envelope containing the name and address of the writer. None of the envelopes will be opened except that which accompanies the successful treatise. The unsuccessful essays or treatises, with the illustrative preparations or drawings, will remain at the Museum of Guy's Hospital until claimed by the respective writers or their agents.

SOCIETY NOTICES.

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — A regular meeting of the Society will be held at the Medical Library, 19 Boylston Place, on Monday, April 5th, 1886, at 7.45 o'clock, P.M. Readers: Dr. T. W. Fisher, "Two Unusual Cases of Insanity probably of Epileptic Origin." Dr. F. B. Harrington, "Results of the Intravenous Injection of Saline Solutions."

H. L. BURRELL, *Secretary*.

SUFFOLK DISTRICT MEDICAL SOCIETY. SURGICAL SECTION. — There will be a meeting of the Section at 19 Boylston Place, on Wednesday evening, April 7th, at 8 o'clock. Communications: Dr. D. W. Cheever, "Report of Some Cases of Exostosis of the Bones of the Face, with Specimens." Dr. F. B. Harrington, "The Operation for Shortening the Round Ligaments, with Cases." Dr. E. W. Cushing, "Exhibition of Various Forms of Antiseptic Dressings. S. J. MIXTER, M.D., *Secretary*.

ERRATA.

In Dr. Chas. W. Townsend's "Analysis of 412 Cases of Lobar Pneumonia," in the JOURNAL of the 25th ult., 14 lines from the bottom of first column, p. 275, should read the female, 19.9 instead of "the female 09.9." And in the table at the top of page 276, in the column under "Collective Investigation," for "lower left lobe," read upper left lobe, and *vice versa*.

BOOKS AND PAMPHLETS RECEIVED.

The Forty-Seventh Annual Report of the Superintendent of the Boston Lunatic Hospital to the Board of Directors for Public Institutions For the Year ending December 31, 1885. Boston: City Printers.

Examination of the Auditory Organ of School Children (concluded). By Dr. Friederich Bezold, Munich. Translated by Isidor Furst, New York. (Reprinted from the Archives of Otology, Vol. xiv, No. 4, 1885.)

Catarrh of the Upper Air Tract. Especially its effects on the Ear, with Suggestions as to Treatment, both Hygienic and Medical. By Samuel Sexton, M.D., Aural Surgeon to the New York Eye and Ear Infirmary. (Reprinted from the Medical Record, Jan. 30, 1886.) New York: J. H. Vail & Co. 1886.

[1] The prize cannot be awarded to any essay that is the joint production of two or more authors.

Lecture.

EPITHELIOMA OF THE CERVIX IN A CASE OF PROLAPSUS UTERI. OPERATION FOR THE REMOVAL OF THE GROWTH, WITH OPENING OF DOUGLAS'S CUL-DE-SAC, AND COMPLETION OF THE OPERATION BY REMOVAL OF THE WHOLE WOMB.

A CLINICAL LECTURE DELIVERED AT THE HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA,

BY WILLIAM GOODELL, M.D.,
Professor of Gynæcology.

REPORTED BY WILLIAM H. MORRISON, M.D.

Gentlemen, to-day I bring before you a woman who has borne many children, and who gives a history of uterine hæmorrhage long after the appearance of the climacteric.

From my teachings you will at once infer, and correctly in most cases, that the most likely cause of this is cancer. For in my experience, it is only women who have borne children that suffer from cancer of the cervix. In the whole course of my professional life, I have met with but two apparent exceptions to this rule. One was in a married woman who alleged that she had never had a child, but I think she probably had one before her marriage. The other was in a sterile lady who had a large fibroid tumor of the womb, which was gradually self-enucleated and forced through the os, dilating it to some three inches in diameter. It had been in this position for some time, and had, of course, bruised and irritated the cervix by its presence. I removed the tumor without tearing the cervix, but, of course, with more or less stretching of the parts. Within a few weeks, carcinoma attacked the cervix, and she ultimately died. Yet this apparent exception to the rule really strengthens it, for in this case, the cervix uteri was as much injured by the birth of the tumor as it would have been by the birth of a child.

Cancer of the cervix uteri, then, occurs in women who have borne children, because it is the cervix that sustains the injuries of labor, it being the lowest portion and the part through which the whole child must come, and which must sustain the brunt of all the injuries of labor.

This case is an exceedingly interesting one, almost unique, as it gives me an opportunity of exhibiting to you an epithelioma of the neck of a womb, whose neck is wholly outside of the body. She is sixty-four years of age, the mother of twelve children, and has been sent to me for operation by Dr. F. R. Gerhard, of Douglassville, Berks County. She came under his care three months ago, complaining of pain in the back, and on examination, the true condition was recognized and an operation recommended. The sound goes in five inches, and we have here, as you see, hypertrophic elongation of the supra-vaginal portion of the cervix, and infiltration of the vaginal cervix with this cancerous growth. The cervix is at least four inches in diameter; the fundus remains high up within the pelvis.

It is my intention to remove this growth as far as possible with the scissors and knife. In doing so, however, I shall run considerable risk of opening either the bladder or the peritoneal cavity. I can ascertain the position of the bladder by means of a sound introduced into its cavity, but I have no means of determining how far down the peritoneal fold, or Douglas's pouch, extends. I find that the bladder comes well down over the anterior surface of the growth. In order to prevent hæmorrhage, I take two or three turns around the uterus with a rubber tube. I next carefully dissect the bladder from the uterus, until I get as far as possible above the diseased surface, and then cut through the neck, coming out at the posterior portion.

Examining to see if I have entered the bladder of Douglas's cul-de-sac, I find that the former is uninjured, but that there is an opening into the peritoneal cavity. The fundus of the uterus is retroflexed and perfectly movable. I think the best thing now to do would be to remove the uterus bodily, which will then give the patient a better chance of ultimate recovery, without materially increasing the dangers of the operation. The cavity is thoroughly injected with carbolic-acid solution. The fundus of the womb is then brought through the peritoneal opening, and transfixed with a needle armed with a stout thread. This gives me complete control over the organ. I now dissect off the womb from the bladder, partly with the blade and with the handle of the knife. Hooking my finger over the left broad ligament, I transfix it and tie it on either side, and again *en masse*. It is then cut off close to the womb, being first caught by a pressure-forceps, so as to be under control if the ligature should slip and bleeding occur. The right broad ligament is treated in the same way.

The womb is now, as you see, completely detached, and comes away. I find its cervical surface infiltrated with cancer. I shall close up the upper portion of this large opening in front of the bladder by sutures, but shall leave at the lower portion, a space for the escape of any discharges that may occur, the ligatures acting as drainage-tubes. Seven silver sutures have been put in, and now the parts are thoroughly syringed with a two and a half-per cent. solution of carbolic acid. The vagina is lightly packed with cotton medicated with corrosive sublimate, and an opium suppository is slipped into the rectum.

The patient will be wheeled to her bed in the private room, alongside of the woman from whom, yesterday, many of you saw me remove an ovarian cyst.

With regard to the removal of the whole womb for cancer, I have long been on the fence, being undecided whether it were a legitimate operation. Undecided, because the operation, save in a very few hands, has been a most fatal one; and, when successfully performed, has not given immunity from the return of the disease. Yet, it certainly has cured some women — at least, the disease in five years had not returned — and I am disposed to think that, whenever a cancerous womb is freely movable, and the cervix can be readily dragged down to the vulva, the extirpation of the whole organ is warrantable. But the operation should always be performed *per vaginam*, and not by the abdominal incision, which is a very difficult and a very fatal operation.

(This woman did perfectly well. Her temperature on the succeeding day went up to 100.5°, but it never, after that, reached 100°. Two weeks later, she was brought before the class to have the sutures removed. The parts, which at the time of the operation were external, were now drawn up so high that difficulty was experienced in reaching and in removing the wires).

Original Articles.

CHRONIC TEA POISONING.[1]

BY WILLIAM N. BULLARD, M.D., BOSTON.

GENTLEMEN, I desire to-night, so far as lies in my power, to draw your attention to an affection which from its great frequency, the peculiar discomfort of its symptoms and its relative curability, is worthy of the careful consideration of the profession. At first sight it may seem surprising that so little has been either written or spoken in regard to this subject, but I believe this to be principally due to two causes, firstly, the apparent ease with which any symptoms thus produced could be checked, by withdrawal of the existing agent, and secondly, to the indefiniteness and obscurity of these symptoms and the difficulty of proving their origin. During my study of this subject I have become more and more convinced that the latter difficulty is our greatest obstacle to a thorough knowledge of this affection, and that it is only to be overcome by the most careful investigation of each individual case and by the comparison of statistics drawn from a considerable number of such cases.

In the literature of this subject, which is curiously scanty and much of which has been written by the laity or from a non-professional point of view, I have been able to find only general statements, but few definite proved facts, and *no* statistics.

In this paper we desire to confine our consideration to the cases of ordinary sub-acute and chronic tea-poisoning, putting aside all acute cases, where large quantities of tea have been imbibed at a single sitting, and all those of tea-tasters or persons by profession exceptionally exposed to its toxic influence. In both these classes the symptoms are plain and well-known, and Morton's paper on tea-tasters leaves little more to be done in that direction except by those having special opportunities. The cases which I wish to consider are of the sort which present themselves daily to the general practitioner with symptoms sometimes obscure, sometimes more or less pronounced.

The first fact which strikes the observer is the very gradual and insidious growth of the symptoms, which at first are frequently so slight and so indefinite as to be scarcely noticeable and only produce serious discomfort after a considerable period. This is one cause why their origin is not recognized by the patients themselves, and another reason for this may be found in the fact that the majority of them are of so general a character that they can readily be referred to some other source. Hence arises the difficulty in diagnosis, which so frequently occurs, and there are many cases in which it remains impossible to determine how far certain symptoms are the result of tea and how far they are due to other causes. As the cases become more severe the symptoms become more distinct and the diagnosis easier.

I will first describe a few cases of typical tea-poisoning, and then proceed to the analysis of the symptoms.

Case I. Boston Dispensary. Thomas G., about fifty-five years old, a horse-car washer. Complains of attacks of "rolling in the stomach" followed by flatus and tenesmus, and has attacks of cold chills and weakness with a tendency to faint. He has staggered several times and come near fainting while at work, but has never fainted away. Has lost flesh lately. No palpitation: no cough. Drinks from one to three pints of tea per diem. He is emaciated and has a cachectic appearance. The heart and lungs are normal, so far as can be detected, except that the second sound is accentuated in the region of the pulmonary artery. Urine is normal in appearance, contains no albumen. Patient has lumbago and probably hæmorrhoids.

Case II. Carney Hospital. Woman, forty years old. Diagnosis, "tea-dyspepsia." Patient is markedly nervous. She feels excited "as if afraid of somebody," especially when in a crowd. She used to have vertigo, but has never fallen. For two years she has been subject to distress in the epigastrium, palpitation, constipation, a dull heavy headache and dizziness, no cough. She drinks tea three times a day and also between meals.

Case III. Woman, twenty-three years old. Diagnosis, "tea-poisoning; anæmia." This patient applied at the Carney Hospital Out Patient Department on March 19th, 1885, on account of bilateral headaches, frontal and occipital, accompanied by nausea and vomiting, which had occurred once a week for the preceding six months. She had been subject to these previously, but they were less severe and for about two years had been entirely absent. Her appetite was poor and she had a feeling of "weakness" in the epigastrium, but there was no distress after food, bowels regular. Had palpitation. Had never had rheumatism. Drank tea three times a day and also between meals. Under proper treatment she reported herself well on the 2d of April.

Case IV. Girl, thirteen years old. Complains of pain in both sides, especially the left, nausea, but no vomiting, headache frontal and bilateral, palpitation and dyspnœa. Bowels constipated. The heart and lungs were normal, as far as could be detected. There was some tenderness over the epigastrium. Drank one to one and a half cups of tea three times a day. This is a typical case of light tea-poisoning.

Case V. Woman, sixty years old. Dull frontal headache followed by "numbness" all over, which seems to be a sensation of weakness rather than a paræsthesia. Attacks of dizziness, when she fears that she will fall. Appetite poor. No vomiting, but nausea with the headache. Bowels regular. Drinks pure black tea strong three times a day and occasionally between meals. Distinct improvement in a week under treatment.

Morton in his article above referred to, gives the following symptoms as the result of the "continued and immoderate use of tea: "headache, ringing in the ears, tremulousness, "nervousness," exhaustion of mind and body with disinclination to mental and physical exertion, increased and irregular action of the heart, and dyspepsia. Starting from this as a basis for investigation, it will be interesting to see how nearly his symptoms correspond to those in the class of cases under consideration. Morton's deductions are drawn from five cases, all tea-tasters.

Our statistics are based on one hundred and sixty-three cases of tea-drinkers, twenty-seven from the Boston Dispensary, one hundred and thirty-six from the Out Patient Department of the Carney Hospital. In addition we have examined for the purpose of differentiation one hundred and fifty-eight cases in which

[1] Read before the Section of Clinical Medicine, Pathology and Hygiene of the Suffolk District Medical Society, March 10, 1886.

symptoms resembling those of tea-poisoning occurred, but in which we were not inclined to attribute the symptoms to the abuse of tea. All the cases from the Boston Dispensary were collected from one of the Women's Rooms, and were consequently adult females. Putting these aside we find that out of the one hundred and thirty-six cases at the Out Patient Department of the Carney Hospital, where men, women and children are all received, by far the larger proportion are in women. The numbers are as follows: men, nine; children under fifteen, twelve; (boys three, girls nine); women, one hundred and fifteen.

Let us now consider the frequency of the different symptoms in our patients and determine, as nearly as possible, what combination of these may be accepted as typical of chronic tea-poisoning. We will follow the order of symptoms given by Morton. It must be stated, however, that in many cases only the more prominent symptoms were noted, and that the existence of the less marked has probably sometimes been overlooked.

1. *Headache.* This occurred in forty-nine cases (thirty per cent.). Hemicrania existed in eleven cases (six per cent.); in the others the pain was bilateral and situated generally in the forehead and temples.

2. *Ringing in the ears was not frequent.* It was noted in but three cases, in two of which it was due to disease of the ear, while in the third case it accompanied a congestive headache supposed to have been due to exposure to a hot sun. It cannot consequently be considered as a symptom of chronic tea-poisoning.

3. *Tremulousness.* This is not uncommon, and it probably occurred to a slight extent in many cases where its existence was not specified, while in others it was included under the title of nervousness. It does not, however, appear to be as common as might be expected and it is certain that in many cases it does not occur. Tremor is noted in six cases, but in only one of these does it seem fairly attributable to the tea. Hence we conclude that *tremor* is not an ordinary symptom of chronic tea-poisoning.

4. *Nervousness.* By this term we understand an undue excitability or irritability of the nervous system, both as shown subjectively by a general sensation of uneasiness and restlessness, and as evidenced objectively by an exaggerated reaction to sudden external impulses, as loud sounds, bright lights, especially when unexpected, and by a diminution in the normal power of control over the emotions, for example, an increased tendency to emotional display, laughing or crying. Nervousness is noted in twenty-seven cases (sixteen per cent.), its absence in one. Slight degrees of nervousness probably exist in nearly all these patients, but we cannot, therefore, conclude that it is the direct result of tea; on the contrary, in many cases, it is undoubtedly due to the concomitant digestive troubles. It has only been noted where it was a prominent and well-marked symptom.

5. *Exhaustion of Mind and Body, with Disinclination to Mental and Physical Exertion.* This symptom undoubtedly exists in many cases, but is of too indefinite a character to be susceptible of accurate determination in the class of cases with which we have to deal. Moreover, its liability to occur from other causes renders it impossible to determine how far it is due to tea in our patients. General weakness is mentioned as a prominent symptom in thirteen cases (eight per cent.). All cases of anæmia are excluded.

6. *Increased and Irregular Action of the Heart.* I had expected to find this in nearly every case, but, although frequent, it does not appear to be a necessary concomitant of tea-poisoning in this form. *Palpitation* is recorded in eighty cases (forty-nine per cent.) It is present in almost all severe cases. Irregularity of the heart occurred in six additional cases. In four cases where it would naturally be expected, the absence of palpitation is noted.

7. *Dyspepsia.* The occurrence of gastric or intestinal symptoms with chronic tea-poisoning is almost universal; but on the other hand, in many cases these do not assume a very prominent form. Under this heading, we have noted only cases in which there was a distinct sense of oppression or fulness in the epigastrium after eating. In this sense, we find that there were seventy-five cases (forty-six per cent). Pain in the epigastrium occurred in sixteen cases (nine per cent.), six of which were included under dyspepsia.

Vomiting occurred in twenty-eight cases (seventeen per cent.); nausea in thirty-two (twenty per cent). Twenty-two of the cases of vomiting had been noted under dyspepsia; in thirteen cases it was combined with nausea. In one case only was it noted separately, and in this it occurred with a headache, which was sometimes unilateral.

Nausea was, in twenty-three cases, combined with dyspepsia; in thirteen, with vomiting. In five cases it is reported alone. In three of these it occurs with headaches, in one there is trigeminal neuralgia, and in the last it is probably due to tobacco.

Pain in the left side or in the cardiac region, so frequent a symptom in women, and which, in most cases, is probably due to intestinal conditions, occurred in but thirty-four cases (twenty-one per cent). It can, therefore, scarcely be considered as exceptionally frequent in this class.

Intestinal disturbances of any serious character do not occur in chronic tea-poisoning. Before examining this series of cases, we had supposed that we should find constipation to be a marked and definite accompaniment of habitual and excessive tea-drinking, but as we compared the symptoms in the various cases more closely, we were more and more surprised to find how little foundation existed for this opinion. As a matter of fact, we find that out of our one hundred and sixty-three cases, seventy-seven only (forty-seven per cent.) are recorded as having been subject to constipation; while in forty-six (twenty-eight per cent.), the bowels are recorded as regular, and in three cases there was looseness. Of the thirty-seven cases not recorded, it is but fair to suppose that no marked constipation existed, because this was carefully looked for and noted in every case, while in the more lately recorded cases, its absence was specially noted. In one hundred cases of women taken from the same clinic, but not affected with tea-poisoning, precisely fifty were recorded as suffering from constipation.

The condition of the appetite was found to be quite different in different cases, more frequently somewhat affected. Yet in some of the severest cases it was absolutely unchanged, and occasionally it seemed to be even increased. Poor appetite is recorded in fifty-four cases (thirty-three per cent.); appetite good or fair in twenty (twelve per cent.); excessive in one. Only nineteen of the cases of loss of appetite coincide with those of dyspepsia, leaving forty-seven cases of dyspepsia in which the condition of the appetite was not re-

corded, and it seems fair to presume that in most of these the appetite was more or less affected. Adding these forty-seven cases to the fifty-four before mentioned, we have a total of one hundred and one cases (sixty-one per cent.). This proportion cannot be much too large.

We now pass to symptoms not mentioned by Morton, which occur more or less frequently in our patients.

Dyspnœa occurs in a considerable number of cases, twenty-three (fourteen per cent.), but seems usually to be secondary to anæmia or cardiac weakness. In two of the cases it was evidently due to accompanying pulmonary disease. In nineteen it was accompanied by palpitation.

The general conditions of health varied considerably in the patients examined. Most of them were well-developed, and in few cases was there evidence of any serious organic disease. Anæmia was present in twenty-nine cases (eighteen per cent.).

In regard to the condition of the nervous system in this class of cases, we hope to speak more fully on some other occasion. There is no question but that there exists among these patients exaggerated nervous excitability and irritability, and a distinct tendency to functional nervous affections, both of an hysterical and of a neuralgic type. Nervousness, as before mentioned, was noted in about sixteen per cent. Neuralgia existed in twenty-one cases (thirteen per cent.); herpes zoster in one. We find distinct nervous symptoms, not including palpitation or bilateral headaches, which are frequently of dyspeptic origin, in sixty-eight cases (forty-two per cent.).

To sum up these, we conclude from the figures presented, that the most common symptoms in chronic tea-poisoning are loss of appetite, dyspepsia, palpitation, headaches, nervousness, and various forms of functional nervous affections of an hysterical or neuralgic character, vomiting and nausea. The constipation, which so frequently occurs, cannot be considered due to the tea.

TABLE SHOWING COMPARATIVE FREQUENCY OF SYMPTOMS IN CHRONIC TEA-POISONING.

Loss of appetite	61 per cent.
Dyspepsia / Pain in epigastrium	52 "
Palpitation	49 "
Constipation	47 "
Nervous symptoms	42 "
Headache	30 "
Pain in the left side	21 "
Nausea	20 "
Vomiting	17 "

All these symptoms are common in many other diseases, but it is the special combination, which exists here, and above all, the predominance of the nervous group, which enables us to form our diagnosis. It is evident that there exists many cases of this affection in which no diagnosis could be arrived at from the symptoms alone without the history, but I firmly believe that in the majority of the cases, a presumption in favor of this affection is justifiable from the sole evidence of the symptoms.

The first evidence of chronic tea-poisoning is usually given by symptoms referable to the digestive organs. We notice a gradually increasing difficulty in digestion, as shown by a sense of weight and heaviness in the epigastrium, uneasiness after taking food, and general lowering of tone, both mental and physical. If the habit of tea-drinking be continued, a general restlessness and excitability of the nervous system makes its appearance, soon followed by a marked disinclination for food, and by headaches. Constipation is very common. Palpitation, which has previously been slight, now becomes distressing, and is not infrequently accompanied by dyspnœa. Up to this point, the onset of the symptoms has been gradual, and none of them have been severe, so that the patient, if asked, would almost always declare herself in good health. In the more severe cases the previous symptoms become aggravated, the headaches become more or less severe, and more or less persistent, and neuralgias and other symptoms referable to the nervous system, paræsthesia, anæsthesia, and various forms of functional cerebral trouble, show themselves: the latter are due in part, perhaps, to the digestive derangements, which are especially liable to betray themselves by vomiting and nausea. In other cases, the symptoms point rather to the class known as hysteria.

As to the anæmia which exists in many cases, I am inclined to regard it as quite as much cause as result of the tea-poisoning. In many cases it is probably both.

If we now analyze the classes of symptoms in detail shall we find any points — except that of combination — by which we can distinguish them from the same classes of symptoms in other diseases? At present, at least, until we are able to examine more carefully into the smaller details, this must be answered in the negative. Nevertheless there are certain points to which it may be well to call attention, inasmuch as they may serve as a basis for future more thorough investigation. We will therefore consider these classes in turn.

Digestive Symptoms. These should be divided into gastric and intestinal. In making the division we are at once struck with the predominance of the gastric symptoms both in frequency and severity. With the exception of constipation and pain in the left side, which do not occur more frequently in these patients than in others of their class, who are unaffected by tea, intestinal symptoms are rare. Only four cases are found in which they exist so as even to be noted, and in only one of these is it probable that they had any connection with tea.

The ordinary symptoms of gastric disturbance, pain and oppression in the epigastrium, distress after food and in severe cases nausea and vomiting are comparatively frequent, and in connection with these should be placed certain forms of headache, which are evidently secondary to gastric disturbance. These symptoms are not to be distinguished from those due to ordinary subacute or chronic dyspepsia arising from other causes. There are, however, certain forms of dyspepsia, or perhaps more properly of gastroneurosis, which should at once direct our attention to the probability of tea poisoning. These occur more markedly in the severe cases and are characterized by the fact that the gastric trouble seems to depend rather on some abnormal conditions of the nerves than on any dyspepsia, properly so-called. Wherever a marked gastralgia exists without evidence of organic disease, wherever we find frequent vomiting apparently unaffected by food and unaccompanied by gastric catarrh; in other words, wherever we find evidence of a true gastroneurosis, or of increased excitability of the gastric nerves greater than could ordinarily be accounted for by the condition of the stomach, whether dyspepsia be present or not, if the agency of alcohol can be eliminated, we should always suspect tea-poisoning.

In regard to the symptom of pain in the left side or

in the cardiac region, it is in many cases difficult to determine from the character and position of the pain alone whether it be due to cardiac trouble or to intestinal disturbance. As far as my observation goes I incline to think that the latter cause is the most common, but on this point I have no satisfactory data.

Circulatory Apparatus. The most prominent symptoms relating to the circulatory apparatus are palpitation and irregularity of the heart-beat. These occur frequently and our attention is often first drawn to the cause of the affection by their presence. They usually occur together; indeed, I believe that in all cases of palpitation more or less cardiac irregularity may be detected. They are undoubtedly due in most cases to reflex action on the nerves of the heart, and may fairly be considered as evidence of a functional affection of the nervous system of the heart or a cardiac neurosis.

We have at present no evidence in regard to the condition of the blood-vessels in this affection, and it is reasonable to suppose that no great variation from the normal will be found, inasmuch as the trouble is so chronic and in many cases so slight. Whether or not any increase exists in the excitability of the vaso-motor nerves under these conditions would be an interesting subject for investigation.

Pulmonary Symptoms. The only pulmonary symptom which exists in chronic tea-poisoning is dyspnœa, and this is probably always secondary to cardiac weakness and irregularity. We have thus far no evidence of any affection of the pulmonary branches of the pneumogastric.

Symptoms Referable to the Nervous System. It is the great prominence of functional affections of this class which, in combination with the symptoms already described, gives its peculiar character to the symptom-complex of tea-poisoning. All these symptoms are met with frequently in many and very various diseases, and it is only through the special method of their combination that any distinctiveness is attained. Now it is precisely these functional affections of the nervous system which, when they take a prominent position in connection with the ordinary symptoms of dyspepsia, should lead us to consider the probability of the toxic action of tea. What these affections are I hardly need state, especially as I desire to enter more fully into this subject at some future time, but among the more common forms are paræsthesiæ, neuralgias and functional motor paralyses, usually temporary. It is of special importance to remark that the affections of the nervous system due to chronic tea-poisoning are, so far as my observations show, *always functional*. Where organic symptoms exist they are not connected with tea.

Having now considered in more or less detail the symptoms produced by tea when taken in excess for a considerable period of time, we are naturally led to the inquiry under what conditions does tea exert this toxic influence and what amount is usually required to cause it. It is evident that the answer to the latter question depends on the character (strength and quality) of the tea used. The class of persons with whom we have to deal, as a rule, use either Oolong or English Breakfast tea, or a mixture of the two. Stronger kinds are sometimes, but rarely, used.

In regard to the amount necessary to produce chronic intoxication, this naturally varies according to the physical condition of the subject and the period during which its use has been maintained. In order to obtain an approximate estimation thereof we have tabulated the amounts taken daily by 171 patients, 94 of whom had no symptoms of tea-poisoning, while in 77 these symptoms were present. In estimating the amounts we are perfectly aware that absolute accuracy is not obtainable, if for no other reasons, at any rate because in the first place the teacups used vary in size, and secondly the strength of the infusion cannot be determined.

Our results are as follows: 94 female patients of the same class as the tea-drinkers, but in whom there were no *distinctive* tea-symptoms, who applied at the Carney Hospital during this period, were questioned in regard to the amount of tea drunk, in order that a standard of comparison might be obtained. Some of these were suffering either from neuralgia or dyspepsia which might have been caused, at least in part, by their addiction to tea, but there was no proof of its influence. Out of these patients,

14	drank no tea.		
7	"	1	cup per diem.
6	"	1½	cups "
16	"	2	" "
3	"	2 to 3	" "
3½	"	3	" "
3	"	3½	" "
7	"	4	" "
4	"	4 to 5	" "
1	"	5	" "
2	"	6	" "

Average 2.3 cups.

Seventy-four patients with symptoms of tea-poisoning drank tea as follows:—

1	drank	2	cups per diem.
3	"	3	" " or tea three times a day.
7	"	4	" "
28	"	4 to 5	" " (Those who reported that they drank tea three times a day and between meals also are counted here.)
6	"	5	cups per diem.
9	"	6	" "
3	"	7	" "
8	"	8	" cups or over per diem.

In addition to this we have three cases who drank tea "all the time." Average 4.8 cups.

From these figures it appears that those in whom toxic symptoms were present drank, as a rule, much more tea than those in whom these symptoms did not appear, which tends to prove that these symptoms were, as we have previously stated, caused by the tea.[2] In the second place we find that, as a *rule*, about five cups a day are required by the average patient of this class to produce chronic intoxication.

The physical condition of the subject, apart from any natural idiosynerasy, has an important bearing on the action of tea upon the system. Youth, anæmia, or weakness from any cause, deprivation of fresh air and exercise and want of other food all tend to increase its deleterious effects. Thus we find that infants and all persons under the age of puberty are affected with ease. Again, weakness of any kind and anæmia naturally render the system more susceptible to the injurious effects of external agents as the normal power of resistance is wanting, and hence we find that even those adults who have for years been accustomed to take a moderate amount of tea without evil effects, if for any reason they become anæmic, if their strength be exhausted by excessive work or in other ways, immediately begin to show toxic symptoms, although the amount of tea ingested has not increased. This is

[2] It seems scarcely necessary for me to state that the diagnosis in all the cases had been made and entered on the books sometime before this table was thought of, so that there could be no question of involuntary self-deception.

well shown in cases of chlorosis, and is very common among factory-operatives and seamstresses. We desire to lay special stress on this fact, which is one cause of the non-recognition of the toxic agency of tea by the patient.

That deprivation of fresh air and want of sufficient food should cause the same result is only to be expected, not only because in themselves they tend directly to produce weakness and anæmia, but also because the toxic products are not so readily eliminated. It is for the same reason that more tea can be drunk without evil effect by persons when working or taking exercise than could be taken by the same person when idle or at rest.

In conclusion, I would state that I have arrived at the following results:

(1) That the action of tea is cumulative.

(2) That its action is more pronounced on the young and on those subject to anæmia or in a depressed physical condition, although persons otherwise healthy not infrequently show toxic symptoms.

(3) That among the class of people under consideration, who, as a rule, use medium grades of Oolong and English Breakfast tea the average amount needed to cause toxic symptoms is a little less than five cups per diem.

(4) That chronic tea-poisoning is a frequent affection, and that its most common symptoms are loss of appetite, dyspepsia, palpitation, headache, vomiting and nausea, combined with nervousness and various forms of functional nervous affections, hysterical or neuralgic. These symptoms are frequently accompanied by constipation and pain in the left side or cardiac region.

RECENT PROGRESS IN THE TREATMENT OF THE INSANE.[1]

BY WALTER CHANNING, M.D.

DRUGS IN THE TREATMENT OF THE INSANE.

DR. STARK of Illenau has written a paper on the "Present Status of the Paraldehyde Question,"[2] characterized by the usual German thoroughness.

Cervallo found on experiment with guinea-pigs and frogs that narcotic doses of paraldehyde slightly slowed the breathing and heart-frequency. The relative blood-pressure was unchanged. Poisonous doses increased reflex irritability and occasioned death through respiratory paralysis. The cerebral hemispheres are principally affected, but also in part the medulla-oblongata and spinal marrow.

Doses of three to five grammes are followed in from five to fifteen minutes by a comfortable, sleepy feeling and soon by dreamless sleep which lasts for several hours. Reflex irritability is diminished, the pupils however react on being touched. The temperature falls a few tenths, and the pulse slows somewhat. The latter is shown by the sphygmograph to be moderately enlarged, with slightly increased tension. It is excreted entirely (unchanged) through the lungs.

Only after great doses, up to twelve grammes, are headache, vomiting, dizziness and other unpleasant results noticed. There is no rash. Usually waking is similar to that after natural sleep. There is no cumulative effect, but the system becomes accustomed to its use. It can be continued and increased however without difficulty.

It is indicated in nervous and psychical conditions, in neurasthenia, hysteria, mania. It is less reliable in mental cases, with "angst-Vorstellungen." According to Gugl, in delirium tremens it has a sedative, as well as an hypnotic effect. A sedative effect is often seen in maniacal conditions. In the untidy, owing to the deep narcosis, the tendency to soil is increased.

In prescribing in the hospital, Stark uses ℞.— Paraldehyd 100.0, rum 150.0, essent. citic 10.0, syr. simp. 300.0, aq. 1400.0. Of this 100.0 contains 5.0 of the paraldehyde. When not borne, or refused by the mouth it can be given as a clyster by the rectum with olive oil. Subcutaneously it has been given but little, as beside the burning and smarting of the place of injection, it has been followed by symptoms of collapse.

In the discussion of this paper Fürstner said he had found paraldehyde most useful in agitated melancholia and in acute conditions. Jolly had got the best results in mania and delirium tremens.

SUBCUTANEOUS EMPLOYMENT OF IRON IN MENTAL DISEASE.[3]

W. Nasse states that various preparations of iron have been employed, such as the pyrophosphate with citrate of ammonia, dialyzed oxide of iron, phosphate of iron with citrate of soda, and albuminate of iron. Huguenin and Neuss used the first. The former in one case of pernicious anæmia, with good result. Neuss had severe local irritation with a third of his cases. Nasse also failed with this preparation. La Costa recommended the second preparation, but Neuss and Nasse found it entirely unfit for hypodermic use.

Martensen, Rosenthal and Neuss used the third, Rosenthal and Nasse found that it gave rise to local inflammation.

The fourth preparation has worked well in the hands of Doenitz and others. Nasse did not try it, as he found something better. This preparation, made by Finzelberg of Andernach, is called "Ferr. Oxid. Solub. pro injectione Finzelberg." It contains twenty-five per cent. of iron oxide.

A solution with water should be made; carefully brought to the boiling point and then immediately filtered. The idea was that the iron in a solution should not be precipitated by the alkaline blood. The dialyzed basic oxide of iron is dissolved in flesh peptone: dialyzed, then by evaporization converted into an easily soluble, red-brown powder, preserving its character for years.

Nasse used this preparation in twelve cases, for months at a time, usually injections being given twice daily. In five cases very slight irritation was caused, on isolated occasions and usually from neglect. In no case was any bad effect noticed, and in most, very decided benefit. The pulse and strength improved, and the mucous membrane became more red. Almost all the cases have recovered.

HYOSCINE.

Dr. Judson B. Andrews has recently written a communication on the use of this drug.[4] There are two chemical combinations of this alkaloid, the hydrobromate and the hydriodate. The former is a white crys-

[1] Continued from page 293.
[2] All. Zeitschrift f. Psychiatrie 41stes Band 4tes and 5tes Heft.
[3] All. Zeiftschrift Psychiatrie, 41ster, Band. 4ter and 5 ter Heft.
[4] American Journal of Insanity, October, 1885.

talline substance, resembling the other alkaloids, but unlike them all, is tasteless. It is readily dissolved in water and a solution of one grain to one thousand minims, or the one one-hundredth of a grain to each ten minims can be given hypodermically or by the stomach. It is manufactured by Merck and costs seventy-five cents a grain.

Dr. Andrews reports twenty-two cases in which hyoscine was employed. Of these, eleven were of melancholia, six of acute mania, one of chronic and one of paroxysmal mania, one of mania with epilepsy, one of dementia, and one of acute chorea.

The doses ranged from one two-hundredth to one-thirty-third of a grain, and were in all cases perfectly safe. The drug was given by the mouth in twenty of the cases, and in two by hypodermic injection. In one of the latter, there were painful abscesses, probably due to the debilitated condition of the patient.

The physiological effect of the drug was experienced in from fifteen minutes to two hours, but the average was less than one hour. The pupils were dilated in most of the cases, but the disturbance of vision, and the dryness of the fauces, or the inhibition of muscular movements were only complained of in two cases. There was no nausea, nor loss of appetite after its use in continued doses, as is sometimes the case with hyosciamia. There was also less disturbance of the vasomotor system, than with the latter.

It would seem to be a powerful sedative both to the cerebral and spinal system, and from the success attending its use, entitled to a high position in the list of hypnotic remedies, higher even than the other alkaloid-hyosciamia.

CARE OF THE CHRONIC INSANE.

This is an old question, but of constant and increasing interest, as the number of this class gradually increases and more and more crowd the State hospitals. As the necessity in this State, Massachusetts, becomes more urgent, we approach nearer and nearer to the consideration of simple and inexpensive forms of provision.

The most practical, and therefore the one most likely to be followed, is the erection of additional buildings, on the grounds of existing State hospitals.

Dr. Earle suggested this plan in his annual report for 1881 – 2, and the Trustees of the Northampton Hospital again call attention to the necessity of its serious consideration.[5] Dr. Earle wished an annex for recent cases.

Dr. Goldsmith thinks receptacles for the feeble and demented are needed, and not new hospitals.[6]

Dr. Brown[7] is of the opinion that a new asylum for the chronic insane at some central point would not be much more expensive, and would produce better results. Sufficient land could then be had for the employment of the patients. If the segregate plan of building were adopted, which Dr. Brown would approve, the epileptics and the criminal insane, including the dangerous and homicidal class who are not criminals, could be provided for in separate buildings. In deciding how best to make provision for the rapidly increasing number of the insane, the best plan for years to come should be adopted, Dr. Brown very properly says, and not some make-shift expedient for temporarily bridging over the difficulty.

[5] Annual Report, Northampton Hospital, 1885.
[6] Annual Report, Danvers Lunatic Hospital, 1885.
[7] Annual Report, Taunton Lunatic Hospital, 1885.

The city of Boston as well as the State, will be soon obliged to provide further accommodations for her insane. The asylum at South Boston is filled to overflowing, and the management and treatment of the patients are interfered with and hampered to an alarming extent.

Dr. Fisher points out the great complications of the existing situation,[8] and strongly recommends that the Austin Farm, belonging to the city and two or three miles distant from the hospital, be used as a department of the institution, for the chronic insane. There are now buildings on the Farm which have been used for the care of city paupers, and at very small expense these can be slightly changed and made convenient for the care of the insane.

Dr. Fisher would have an assistant reside at the farm. Otherwise it would be under the general supervision of the asylum authorities.

BOARDING OUT OF INSANE PERSONS.

In connection with the subject of providing for the chronic insane, the boarding-out system has come into prominence.

Dr. Henry R. Stedman considered this subject in the Annual Report of the Board of Health, Lunacy and Charity for 1884.[9] He very fairly weighs both sides of the question, and comes to these conclusions: —

1. A large proportion of the chronic insane poor do not require asylum treatment, yet they cannot be suitably provided for among relatives or friends. 2. Experience both in this country and abroad, justifies the belief that suitable families can be found in this State to board and properly care for such persons. 3. If placed in families, under expert supervision and proper visitation, these patients would be more comfortable than they now are; those who need effective treatment most would be more apt to receive it in the lunatic hospitals; and the expense to the State and towns for the harmless insane would be less.

Finally, Dr. Stedman earnestly advises the boarding-out plan on a small scale, trusting to judicious management for its rapid extension.

As a consequence of agitation a law was passed by the Massachusetts Legislature, called "An Act providing for the Care of Certain Insane Persons," which went into effect in June, 1885.

It gives the Board of Health, Lunacy and Charity authority to place insane persons of the quiet and chronic class, at board in such families as it may deem best. The rate paid is not to exceed that now paid at the State lunatic hospitals ($3.25). Such patients as are boarded at the expense of the State, shall be visited every three months, but those whose board is paid by cities and towns, once in six months. The Board has authority to change the boarding-place, or transfer any patient to a lunatic hospital if improperly cared for.

Up to the first of January, 1886, this law had been in operation for a period of five months. The Board stated that during this period 32 patients had been sent to boarding-places.[10] Of these one was discharged to leave the country, two were returned to the hospital as unsuitable cases, and one for a special cause, leaving 28 in 14 families.

[8] Annual Report, 1885.
[9] The Family System as an Accessory Provision for our Insane Poor.
[10] Annual Report for 1885.

GHEEL.

As bearing directly on the question of the boarding out of the insane, one or two recent papers on Gheel are of interest. The first of these is by D. Hack Tuke, F.R.C.P.[11]

Dr. Tuke visited Gheel in September, 1885. There were at that time 11,000 inhabitants and 3,025 houses, in 1,100 of which lunatics were received, or at one house in three.[12] The town covers 26,000 acres and has a circumference of 24 miles. There were in September 1,653 patients, or one in seven of the population. The colony is divided into two sections and over each is placed a medical supervisor and his assistant. Each patient must be seen twice monthly, or if curable once a week. (The curable as well as the incurable are sent to Gheel). By the above arrangement it will be seen that 400 patients are placed under the immediate care of one medical man, being subject also to the supervision, in a general way, of the chief medical inspector, who resides at the central asylum. Each sectional physician has six visiting attendants under him.

In one cottage Dr. Tuke found two female idiots, and a dement all filthy and kept in the living room of the family. In another house were two women, one quite restless. These were under the charge of a nourricier. In the room they occupied men would drop in now and then to drink beer, or play cards.

In the inn, an English youth boarded, who paid £60 per annum. He had ample liberty, seeing Dr. Tuke off at the rail-road station at ten o'clock in the evening. Dr. Tuke thought that it was not desirable to send a young man so far away, with so much liberty and an undesirable moral environment. Two other English patients were seen, one of them accompanying Dr. Tuke on his visits to the houses.

He asks the question, Why should these patients be sent so far away from home among strangers? To him it did not seem right.

From a financial point of view Gheel is a success, and the Belgian authorities warmly recommend it. There are, in the Belgian asylums, 8,986 patients and of these, M. Oudart the asylum inspector, thinks that 2,000 might be placed in colonies like Gheel. Were this done £280,000 might be saved in construction, and an annual saving of £6,000 in maintenance, $8\frac{1}{2}d$ per diem being the cost at Gheel, $11d$ in the asylums.

On the farm and in the fields at Gheel 400 men and 100 women are employed. A number of general paralytics are so employed.

The number of suicides, homicides and illegitimate births seems to have been very small at Gheel. Since 1850 no successful homicidal act has been committed, though an attempt was made in 1878. There have been no fires since 1850. There have been only three or four illegitimate births in ten years. The physician-in-chief thinks that homicides, suicides and acts of violence have been vastly less at Gheel than in asylums.

Very little restraint is used, but it must be remembered that patients requiring it are not admitted. Dr. Tuke saw no patient in a "strait-waistcoat." The camisole, belt and gloves are sometimes employed.

Dr. Tuke considers, toward the end of his paper, the lessons that may be learned for England in regard to boarding out insane persons. He finds from the last Report of the English Commissioners in Lunacy, that there were on January 1, 1885, in England and Wales 5,896 pauper lunatics living with relatives and friends, or boarded out in private houses, which gives a ratio of not more than 8.28 per cent. to the whole number of pauper lunatics. Very few of these are with strangers, so that we cannot compare this proportion with that of Belgium, which is 22 per cent. Dr. Lockhart Robertson says it is an unjustifiable waste of public money to place more than 50 per cent. of pauper lunatics in asylums, but there are 67.45 so placed. Dr. Tuke adds that the proportion of those living with relatives or others was in 1859, 18.24 per cent. against the 8.28 per cent. of the present time.

The Gheel system is entirely different from the Scotch, where only 926, or 10 per cent. of the pauper patients are boarded out with strangers. Dr. Rutherford, who was with Dr. Tuke on the visit to Gheel, said that in Scotland the patients to be boarded out were of the chronic demented class, and all paupers; whereas at Gheel, all stages of insanity are found, and the patients are of nearly all social grades. The large number congregated in a small area is also peculiar to Gheel and unlike Scotland.

Dr. Tuke thinks the Scotch system may succeed where the Belgian fails. "Many think," he says, "that the Scotch system is not altogether a success, and certainly if we entertain misgivings as to *its* advantages, we must entertain still greater misgivings as to the planting of a Gheel in this country."

Dr. Frazer does not think the increase of boarded-out patients in Scotland is because of any special advantages possessed by this country for such a purpose. Other countries also have retired hamlets and villages, clean and tidy cottages, and thrifty, respectable and matronly house-wives.

Dr. Tuke believes in segregation, but he seems to think it better to provide small buildings for distinct classes of cases, rather than boarding patients out to strangers on a large scale, or especially concentrating them in one locality. He thinks non-related guardians are better than relatives, partly because the immediate relatives are often themselves peculiar. "This unfortunate circumstance," he says, "militates considerably against the otherwise excellent course of removing inoffensive patients from asylums to their homes."

He regards it as proper to keep the private care of patients constantly in view. He would not limit it to such an extent as he does, if he did not always have in mind the harm liable to be done to the family in which the patient is placed.

Dr. Charles W. Pilgrim, an American physician, has also made a recent visit to Gheel.[13] He gives a rather unfavorable account of what he saw, and does not think that any advantages can be claimed for the system as carried out there, but on the contrary such patients would be much more comfortable in a well-managed and properly constructed hospital.

He says: "This plan has been tried to some extent in the north of Scotland, and I was told by those familiar with the subject, that it had not proved as satisfactory as its projectors had supposed it would."

— Prof. Billroth of Vienna has been obliged, on account of his health, to go to Egypt.

[11] On a Recent Visit to Gheel. Journal Mental Science, 1886.

[12] The number of hôtes or those who take care of paying patients was 160; the number of nourriciers or those who take charge of the indigent, 1,000.

[13] A Visit to Gheel. American Journal of Insanity, Jan. 1886.

Reports of Societies.

MASSACHUSETTS MEDICAL SOCIETY, SUFFOLK DISTRICT. SECTION FOR CLINICAL MEDICINE, PATHOLOGY AND HYGIENE.

ALBERT N. BLODGETT, M.D., SECRETARY.

March 10th, 1886. Meeting called to order at 8 o'clock, by Dr. F. I. Knight, Chairman.

The first work of the evening was the presentation by Dr. H. O. Marcy, of a series of lantern-slides containing photographic views taken from microscopic preparations of the various bacterial forms found in the communicable diseases, as well as a series of preparations showing the impurities contained in the atmosphere, in water, in clothing, etc.

Dr. Cushing being called upon by the Chairman, remarked that he had nothing to say other than he had recently said before this Society in a paper upon an allied topic. One thing is becoming more and more evident, and that is the great and increasing degree of importance which is to be attached to the various forms of bacterial organisms, both as causes of, and factors in the origin or the course of a large and increasing list of diseases. It is an undeniable truth that these lower forms of growth are associated in many ways with the health of the human subject, and the degree of weight to be attached to their presence cannot be overestimated. The technical difficulties attending the study of these organisms in their relations to human health have been, and still are greatly magnified, and the processes of their preparation and preservation made unnecessarily obscure. There is no difficulty in the successful study of bacteria; any careful person can fully and completely understand the technique, and easily carry out the details of an examination of the animal tissues or secretions in relation to the presence or absence of disease germs. Test tubes may be thoroughly sterilized in the kitchen oven, and a culture chamber may be made from two soup-plates placed one upon the other. An even-temperature oven may be made from a wash-boiler, and the entire process may be so simplified that any good microscopist may be able to carry it out. . . . Septic bacteria are easy to cultivate and to examine. As we become familiar with the processes of culture, and realize that a single touch of a needle is sufficient to infect an aseptic culture, we form a better comprehension of the great importance of absolute cleanliness on the part of the surgeon, who may easily carry fatal infection — a veritable death-sentence — beneath his finger-nail. . . . When a patient with a surgical disease takes cold in the wound, we now look for the signs of some septic contamination as the cause, and frequently find that absolute cleanliness will put an end to all the untoward symptoms.

Dr. Goodwin said that he had made some rather exhaustive studies in the department of bacteriology, and had had the common experience, that the ordinary means of illumination are quite insufficient for the purpose of detecting these small and refractory bodies.

He thought to buy an Abbé condensor, but found that it would cost here the sum of thirty dollars, which seemed too much to devote to one piece of accessory apparatus. Dr. Goodwin therefore obtained two ordinary plano-convex lenses of about 1½ inches focal distance, and mounted them in metallic rings. These were now adjusted to each other so as to form almost a double convex lens, and are so adapted to the sub-stage of the microscope as to act as a sub-stage condenser. The surface of the upper lens is now ground at its centre so as to furnish a horizontal area of about ¼ inch in diameter: the entire remaining ovoidal surface is rendered opaque by gently roughening it with a corundum strop, and the instrument is ready for use. With this means of illumination, Dr. Goodwin has been able to secure unusual power of penetration and definition, and has found that some forms of bacillary organisms are clothed with a pellucid envelope or capsule, which he has not seen mentioned by any other observer, in relation to these bodies.

Dr. W. N. Bullard read an interesting paper upon the subject of

CHRONIC TEA POISONING.[1]

The article reviewed the entire subject of this disease, and gave a detailed analysis of the various symptoms observed in the reported cases. The reader has had exceptional facilities for the study of tea-poisoning, and his special labors in the department of Neurology have enabled him to furnish a valuable addition to our knowledge of the phenomena attending this unfamiliar disease.

Dr. Henry I. Bowditch said that this paper is a most useful and instructive contribution to what we knew only somewhat indistinctly concerning the effects of tea, when its use has been persisted in to such an extent as to produce true toxicological results. Dr. Bowditch has very decided views on the subjects of coffee and tobacco, but he has not so frequently observed the deleterious action of tea. The Chinese in the tea-growing regions of the Flowery Kingdom take their tea in a manner very different from that to which we are accustomed. The infusion is not so strong, being made of such a concentration that the bottom of the tea-cup may be plainly seen through the infusion. They use neither sugar or cream in the tea, and Dr. Bowditch has found the flavor vastly improved by discarding these additions to tea as usually taken in this country. All these substances are nervous stimuli, and all are capable of injurious influence upon the nervous system.

The action is of the same nature as the stimulation from alcohol; but the effect is somewhat different, owing to the difference in the manner of taking the two substances, and probably too, owing to a difference in the particular mode of action of the substances. Dr. Bowditch related the case of a prominent politician, who was expected to appear and speak on a certain occasion, but who found himself quite unfitted mentally and physically to undertake the effort. However, by the aid of a quantity of strong tea, he was able to keep his engagement, and to make a long and brilliant speech without betraying the signs of uneasiness or exhaustion.

When the system is once saturated with either tea or tobacco, and the deleterious effects of these substances are once induced, there is nothing to do but to discard the articles at once and completely. Nothing but "total abstinence" will be of any avail. In Dr. Bowditch's personal experience, he found that after once being saturated by coffee, a period of abstinence of fifteen years was not sufficient to remove the effect, but the moderate indulgence in coffee after this long interval was followed by the immediate reappearance of the former symptoms, on account of which the beverage was originally discarded. Dr. Bowditch has never heard a paper which so fully analyzed and so clearly

[1] See page 314.

explained the action of tea, as the work of the present author has done.

DR. C. P. PUTNAM remarked that many physicians see patients in whom the influence of tea is plainly evident as a cause of depreciation of the general health. Dr. Putnam has seen many children as well as adults, who were suffering from the effects of tea. Frequently the diagnosis is a matter of great difficulty; and in obscure and puzzling cases it is not to be forgotten that the abuse of tea may be the sole cause. One frequent symptom is that of ill-defined distress, or at times actual pain, in the region of the heart or stomach, or in some other part of the abdomen, with constipation, which is proved to depend on the abuse of tea, and disappears upon the discontinuance of the harmful agent.

The tea must be entirely withdrawn, as a small amount is quite sufficient to keep up the trouble.

DR. MARCY stated that he had had two cases of tea-tasting. One of these was a famous case; the patient was well known in Boston as a celebrated tea-taster and confidential buyer for a well-known tea house. This patient died, and at the autopsy many gummous deposits were found distributed through the various organs of the body. The patient had syphilis, of Chinese origin. Another man was in business in Boston. He was habituated to tobacco, smoking fifteen cigars daily. He was also a tea-taster, but never was affected by any symptoms referable to the tea. Servants are fond of tea, and take it at all times of day, keeping the teapot on the fire all the time, and drinking from the dregs in the teapot. The value of tea as a beverage is in its aroma, the dregs furnish a bitter, astringent and unpalatable infusion.

DR. BULLARD stated that it is very hard to form a correct estimate of the amount of tea which is taken; this is particularly difficult in regard to servants, who are apt to underestimate the quantity they drink.

DR. WEEKS asked in how large a proportion of cases is it possible to persuade the victim to give up the use of tea?

DR. SCOFIELD said that the children of those who make large use of tea, and give it to their children, are often the subjects of obscure symptoms referable to the heart, which disappear on stopping the tea.

DR. E. W. CUSHING stated that tea and coffee are much alike in one respect, from the fact that both contain a large amount of tannin, which is fully capable of causing a portion of the symptoms described, and may be the origin of a part of the trouble. If tea were made in the manner employed in China, the tannin would not be taken, and this element of disturbance would be removed. Coffee may be prepared so as to deprive it of the tannin it contains, and it is then well borne, even by children. It may be best made in this way. Figs are taken as they are imported, and are baked so as to be of a brown color, and of taste and smell like caramel. A portion of such prepared fig is boiled in the water; after boiling for a few minutes the coffee is added, and prepared as usual. Then an equal quantity of milk or cream is added, and the coffee is served. Coffee thus prepared consists of infusion of fig, some coffee and a good deal of milk.

DR. GOODWIN said that the tannin content of tea and coffee is so great that the tincture of chloride of iron cannot be given at the same time on account of the formation of ink in the stomach, and the consequent nausea.

DR. EASTMAN remarked that the late Dr. Jacob Bigelow was accustomed to speak of the tea and coffee as useful adjuncts to other forms of food and drink, but that they are only harmful when taken alone.

In response to certain remarks in regard to the more injurious effect of tea after long infusion, Dr. Bullard read the following quotation from Dr. Roberts' Address on Therapeutics, delivered before the British Medical Association in 1885, as reported in the *British Medical Journal* of August 15th, 1885. "Some persons have supposed that by infusing tea for a very brief period — two or three minutes — the passage of tannin into the beverage could be avoided. This, however, is a delusion. Tannin is one of the most soluble substances known; it melts like sugar in hot water. You can no more have tea without tannin than you can have wine without alcohol: and I found experimentally that tea infused for two minutes had almost exactly the same inhibitory effect on digestion as tea infused for fifteen or twenty minutes."

DR. EDES observed that one most frequent cause of dyspepsia is the fact that the diet is much deranged. Too much drink and too little food is taken, and the patient gradually becomes anæmic and the train of symptoms so often noticed in tea-poisoning gradually are developed. In this way tea possesses one curious merit, as the patient can be sustained upon a more attenuated diet than when no tea is taken.

DR. FARLOW remarked that it is marvellous what a proportion of patients seen at the Dispensary are totally ignorant of what is a proper condition of the bowels, and the little attention given to regularity of action in evacuation. These patients are almost all tea-topers, and are frequently insufficiently nourished. They generally complain of a feeling of weight in the abdomen, and are also almost invariably nervous.

DR. BLODGETT said that Dr. Cheever expected to have been present at this meeting, but was unavoidably detained. This was the more to be regretted, from the fact that Dr. Cheever has had a large and interesting experience in the treatment of cases of disease arising from the inordinate use of tea. The condition of these patients is not always the same, but presents a limited variation in the array of prominent symptoms. One of the most frequently noticed conditions is a highly exalted state of the nervous system with increased reflex excitability, and a tremulous condition of the voluntary muscles, which justifies the name of "tea tremens," from the similarity of this symptom to the tremor belonging to cases of alcoholic poisoning. This is most frequently noticed in servant-girls, who partake frequently and exclusively of tea as a drink, and do not obtain sufficient exercise in the air, and live principally on fine white bread, to the exclusion of other more wholesome and necessary articles of natural diet. The result is that the system obtains only an insufficient nutrition, and the organs and functions of the body suffer a loss of organic or functional activity, or both. A very important phenomenon in relation to the detrimental action of tea is its effect upon the teeth and other hard structures of the body. This result is most noticeable in our Irish servant population, and particularly in the children born of parents who themselves emigrated to this country from Ireland. The teeth of the parents are almost universally firm and durable in structure, and beautifully clear and white. The teeth of the children, and especially those of the daughters, however, are

found to be poorly formed, to be of brittle structure, and fall an easy prey to caries, and are lost at an early period. This is undoubtedly due to the fact that many of these children are at service as house servants, and when following this occupation are addicted to the tea-tippling and the fine bread above described. The result is, that instead of the full and perfect denture of the parents who lived on plain and coarse food, without any of the abominations of our modern kitchens, these poor creatures obtain only a partial nutrition, the hard structures of the body being deprived of the necessary calcareous supply which resides in the husk of grain, and is removed in the process of making fine flour, the teeth are insufficiently formed or inadequately maintained and consequently are early lost.

Dr. P. C. Knapp showed a series of Normal Electrodes, in which the size of the disk which is applied to the surface in connection with the degree of intensity of the current is measured by the resistance, constitutes a perfectly adjustable measure of the amount and intensity of the current employed, and is a necessary feature in the practical employment of electricity as a therapeutic agent.

These electrodes are the sizes proposed by Erb [2] in 1882, and now accepted as the standard in regard to size, and with them a new size, recently proposed by Erb,[3] which merits a word of description. In testing the galvanic excitability of nerve or muscle the appearance of contraction depends upon the absolute density of the current employed. This absolute density varies of course directly with the intensity of the current, which may be readily measured in milliampères on an absolute galvanometer, and it also varies inversely with the area of the electrode, just as the intensity of a stream of water varies inversely with the size of the tip of the pipe. Hence we have the equation D equals I divided by Q, where D equals absolute density, I equals intensity, and Q (querschmitt) equals area of electrode. Having a ready measure for I in the milliampère, Erb has suggested the use of a "normal electrode" as a testing electrode, with an area of ten cm., either as a flake 3.2 cm. square, or a round disc, like the one exhibited, with a diameter of 3.5 — 3.6 cm. We may then say that KaSZ appears at 4 milliampères, normal electrode, or more simply, KaSZ appears at 4-10, or .4 milliampères, the numerator of the fraction denoting the number of milliampères, the denominator the area of the electrode.

TRANSACTIONS OF THE CHICAGO GYNÆCOLOGICAL SOCIETY.

Sixty-third meeting, Friday, February 19th, 1886.

The President, Daniel T. Nelson, M.D., in the chair.

Dr. A. Reeves Jackson, M.D., opened the adjourned discussion of the treatment of pelvic abscess by the presentation of the following paper, entitled,

LAPAROTOMY FOR PELVIC ABSCESS.

Owing to Dr. Jackson's absence, the paper was read by the Secretary, Edward Warren Sawyer, M.D.

[2] Erb Handbuch ler Elektrotherapie. Liepzig, 1882.
[3] Neurolog. Centralblatt, January 1, 1886.

At the December meeting of this Society a discussion arose upon the subject of pelvic abscess and its treatment. It was based upon the report of a case by Dr. H. T. Byford, which had been treated by favoring discharge of the pus by way of the rectum, and the placing within the abscess cavity a portion of sulphate of copper to promote granulation.

The discussion seemed unfinished, and was withal of so interesting a character, that I have thought well to reopen it by the relation of the following case. Whether the operation performed in the treatment of the case should be termed a laparotomy will depend upon what significance we attach to the term. Upon this point opinions will doubtless differ.

If we understand by the word laparotomy, the opening of the abdominal cavity in its largest sense, the term is here correctly used; but if, on the other hand, we mean the opening of the abdomen for the relief of *an encysted intraperitoneal abscess non-adherent to the abdominal wall*, the term would not be properly applicable, for here there was complete adhesion, and, possibly, in the course of time the abscess might have pointed and opened in that direction, although I do not believe that such result would have occurred. Without active interference I think the disease would have resulted in death from pyæmia in a very few days.

On March 9, 1885, I visited Anna N., in consultation with Dr. Louis Braun, of this city. She was twenty-four years old, had been married six years, and had one child eighteen months old. On February 1, — five and a half weeks prior to my visit — she had miscarried, producing a fœtus four months old. A few days after that event, Dr. Braun found the patient suffering from symptoms of pelvic inflammation, which had since continued with varying severity. He informed me that the pelvic swelling which he detected on examination, appeared to involve all the periuterine structures, but to a greater extent on the right side; that during the past few days, however, it had seemed greater on the left side. From the onset of the attack the pulse had been rapid and the temperature elevated — the former ranging from 110 to 130, and the latter being persistently over 102° F., reaching, on one occasion, 104° F. Pain had been severe, but controllable by morphia. The appetite had failed utterly, and the stomach finally rejected all food.

At the time of my visit, the patient was pale, extremely emaciated, and her visage showed marks of prolonged suffering.

On examination, I found on the left side of and behind the uterus a swelling as large as a medium-sized orange, with rather indistinct outlines. Its lower portion was in a plane with, or somewhat below, the *os uteri*, and bimanually its upper margin could be felt extending above the fundus, which was pushed strongly to the right. Both uterus and tumor were immovable. The latter had a slightly elastic feeling in some places, although I was unable to detect any certain fluctuation through the vagina, rectum or hypogastrium. Through the posterior vaginal wall, at a point about an inch above the lower portion of the swelling, I fancied I perceived a sensation of bogginess, and this, taken in connection with the history of the case, gave me the belief that pus was present. Accordingly I thrust a curved trocar and canula into the swelling by way of the vagina to the depth of about two inches, with no other result than the emission of a few drops of blood.

It was then concluded that the patient should have prolonged hot water vaginal douches daily, rectal feeding, and appropriate anodyne and tonic medicines.

On April 18, — five weeks later, — I saw the patient again, with Dr. Braun, who reported that after my former visit the symptoms had all become gradually ameliorated; the stomach resumed its functions, pain subsided, pulse and temperature became normal. No menstrual or other discharge had appeared. This improved condition had continued until two days before, when, without apparent cause, the patient had a chill, followed by rapid pulse, high temperature, pelvic pain and irritability of the bladder.

Under anæsthesia I examined the abdominal and pelvic organs. The pelvic swelling had undergone no marked change, except that it seemed to have increased in an upward direction, extending now to a point about an inch above the *symphysis pubis*. At this place I thought I detected obscure fluctuation. The swelling as felt *per vaginam* was hard at every accessible point. All operative measures were declined by the patient and her friends, and the treatment advised consisted in the administration of morphia and quinine, and peptonized milk for diet.

April 19, the patient was much worse. The pelvic pain was controlled only by large doses of morphia given hypodermically, and the stomach retained almost nothing. The pulse was 130, temperature 102° F. It was decided that laparotomy should be performed the following day.

April 20. There were present as assistants Drs. Steele, Braun, Sterl, Dickerson and Mascheck. A spray of carbolized water had been kept playing in the room for several hours. The patient was etherized and the bladder emptied by catheter. She was the thinnest person I ever saw placed upon an operating table. Immediately before the taking of ether her pulse was 124, temperature 103° F.

The hair of the pubes was shaven off, and the skin of the abdomen washed with soap and carbolized water. An incision three inches long, ending below at the upper portion of the *mons veneris*, was made in the middle line of the hypogastrium. Deepening the cut I came upon the peritoneum, which, however, could not be separated from the parts beneath. Proceeding inward through dense structures the knife suddenly entered an abscess cavity, which at once gave exit to a stream of pus to the amount of two or three ounces. Passing my finger through the opening I found that the cavity extended downward, behind and to the left of the uterus about three inches. The abscess walls proper could not be accurately defined. The inflammatory processes had matted together the upper part of the uterus, the left broad ligament, tube and ovary. The cavity was washed out, and a rubber drainage tube passed to the lower end, the outer portion of the tube being stitched to the edge of the wound at its lower extremity. The remainder of the wound was closed with sutures, and dressed in the usual manner.

The night following the operation the patient slept fairly well without an opiate.

When I saw her the next day she had taken milk and lime water with relish; her pulse was 108, and temperature 100 2-5° F.

In brief, the relief of the symptoms was immediate, and the recovery uninterrupted. Pus continued to discharge for more than six weeks in constantly diminishing quantity. The tube was then removed. Menstruation appeared July 20th, and has been regular since. I examined the patient September 25th. The uterus was still in a position of right latero-version, but movable in a slight degree. The parts about the left broad ligament were thickened, and somewhat tender. An irregularly shaped mass occupied Douglas's space, and extended upward and to the left. The patient had gained greatly in weight, was ruddy, and doing her own housework.

In a letter dated December 29th, she states, "I have no pain, and feel better than I have for four or five years."

Dr. Jackson appended the following note from Mr. Lawson Tait:

7 The Crescent,
Birmingham, Jan. 4th, 1886.

My Dear Sir, — I have performed now thirty-two operations for pelvic abscess, in every one of which a cure has resulted. Yours very truly,

Lawson Tait.

Discussion.

Dr. Christian Fenger. Before entering into the discussion of the paper which has been read here this evening, I wish to remark that I came here under the impression that the entire subject of suppurative, pelvic inflammation was to be dealt with; I now see the subject is limited to the treatment of pelvic abscess by laparotomy. The operation performed in Dr. Jackson's case I should not call a laparotomy at all, but simply an oncotomy. An abscess was opened, and the operation does not differ materially from the opening of a deep-seated abscess in any other region of the body, for example, in an extremity. As I understand the term laparotomy, and I am not aware that it is ever used otherwise, it means that section of the abdominal parietes is followed by an operation, performed within the peritoneal cavity. If the wall of an abscess situated in an abdominal organ has become adherent to the visceral surface of the abdominal parietes, the peritoneal cavity is of necessity obliterated to the extent to which adhesions have formed. An incision made over such adhesions does not open the peritoneal cavity, and consequently, the operation cannot be spoken of as a laparotomy. In the paper which I published on "Laparotomy for Periuterine Abscess," it was distinctly stated that the only way by which it seemed possible to get at the abscess was by opening the peritoneal cavity; it is also mentioned that omentum and intestines were found between the walls of the abscess and the walls of the abdomen.

Concerning the etiology of pelvic abscess, I should like to call attention to the literature of the subject. Sänger,[1] whose statements regarding etiology I have found to be the most complete, says, that one out of nine of all gynæcological affections is of gonorrhœic character. He further says that fifty per centum of these are diseases of the uterine appendages, although, of course, any part of the genital tract may be primarily invaded. In the Fallopian tubes, he finds that disease most often has its principal focus where it begins and whence it spreads. He distinguishes six kinds of salpingitis: (1) septic, puerperal, and non-puerperal; (2) tuberculosis; (3) syphilitic; (4) actinomycotic; (5) gonorrhœic; (6) a mixed form. The gonorrhœic is the most common form of the disease, and it produces the most severe cases of pelvic inflammation.

[1] Centralblatt für Gynäcologie, No. 41, 1884, page 650.

It has not as yet been proven that the gonococci of Neisser can, of themselves, produce abscesses; but destruction of the surface of the mucous membrane is sufficient; an entrance is thus given to the septic, pus microbes, the *staphylococcus aureus* and *albus* and the *streptococcus pyogenes*, which are probably always present.

The invasion having taking place, we must ask ourselves by what channel does the inflammation travel? Where should we expect finally to find an abscess in case one should form? The fellows will remember the beautiful experiments of Bitas, Koenig,[2] Schlesinger[3]; experiments which, about three years ago, I repeated in the dead-house of the Cook County Hospital, although the purpose I had in view at that time was a different one. These gentlemen injected, by means of fine canulæ, fluids, such as colored glue, into the periuterine tissues of puerperal and non-puerperal bodies. Koenig found (*a*) that fluids, injected in the region around the *fundus uteri* and uterine portion of the Fallopian tubes, first pass upwards into the iliac fossa to reach the crest of the ilium, then downwards towards Poupart's ligament, and finally into the *pelvis minor* or true pelvis; (*b*) fluids injected into the periuterine tissues, in the neighborhood of the internal os, first fill the extraperitoneal connective tissue of the *pelvis minor*, then follow the round ligament as far as Poupart's ligament, and ascend in a backward direction into the iliac fossa; (*c*) that when the injection is made near the lower portion of the posterior surface of the uterus, the fluid first flows into the *cul-de-sac* of Douglas, and thence rises into the iliac fossa.

Schlesinger, although in the main agreeing with with Koenig, differs with him in the following two points: He says (*a*) when fluid is injected into the neighborhood of the *fundus uteri*, it first passes into the iliac fossa, but thence it does not descend into the true pelvis, as Koenig observed, but it ascends, running up the anterior abdominal wall; (*b*) from the broad ligament the fluid finds its way into the iliac fossa, and thence upwards towards the kidney, running in the mesentery of either the ascending or descending colon. Schlesinger further makes the interesting statement that his pericervical injections filled the pericervical tissues, but that they never produced a tumor which could be felt above the *symphysis pubis*.

As far as my experience goes, the results of these experiments correspond well with the clinical facts. The puerperal abscesses which I have opened were situated, two over the crest of the ilium, one on Poupart's ligament, and one on the anterior abdominal wall, about three inches above the ligament.

As before mentioned, about three years ago I made similar experiments; the fluid I employed was milk. My object, at the time, was to ascertain the exact relative position of such an artificial exudate, representing an abscess, with regard to the anterior wall of the abdomen, especially of an exudate in one of the broad ligaments. I wanted to see for myself what difficulties I must be prepared to encounter in uniting the walls of a pelvic abscess, after having opened it, to the edges of the abdominal wound. As might have been expected, I found the difficulties of the operation to vary partly with the size of the exudate, and partly with the degree of tension of the abdominal parietes. On the whole, the matter seemed simpler to me than I had *a priori* imagined.

Whether in cases of pelvic inflammations and abscesses laparotomy should be done or not, is a question of comparatively recent date, it being but little older than five years. As I have already said in my paper on "Periuterine Abscess," the operation is always to be regarded as a last resort and should never be thought of in cases in which the abscess can with safety be reached in any other way, which, of course, includes opening it through the rectum. Lawson Tait,[4] of Birmingham, and Martin, of Berlin, were the first who attempted to prevent the terrible contingencies of pelvic inflammations by attacking the disease at its original seat; Lawson Tait[5] removed the suppurating uterine appendages, Martin operated for suppurating periuterine hæmatocele. Tait operated for a suppurating hæmatoma of the right Fallopian tube (peritonitis), in 1878, and he removed both tubes for pyosalpinx and an ovary for abscess in 1885. In 1885 Martin[6] performed laparotomy in three cases of intraperitoneal hæmatoma, that is, retro-uterine hæmatocele. He opened the peritoneal cavity, incised the sac, and evacuated the blood and pus; he then drained into the vagina, through the pouch of Douglas, and closed the opening he had made into the sac from the peritoneal cavity by sutures. In the discussion following the reading of Martin's paper, Kalienbach opposed Martin's operation, and pleaded for an extraperitoneal operation, reaching the abscess either from above Poupart's ligament, or, as Hegar recommended, from the ischio-rectal fossa. In 1880, Feldman,[7] of Goettingen, published an operation for double pyosalpinx. In 1882, Baumgaertner published a case of hæmatocele in which Martin's operation had been successfully performed. These more or less sporadic operations called the attention of the profession to the subject, and already during the following year, 1883, upwards of fifty or sixty cases were reported, in which laparotomy was resorted to for the cure of pelvic inflammations. Aside from the forty-six cases which Lawson Tait published in his book, "Diseases of the Ovaries," he reported seven[8, 9] more. T. Gaillard Thomas[10] reported five cases; Zeiss,[11] Thornton,[12] Baer,[13] and Proschownick,[14] each one. In 1884, America was represented by fifteen cases: Stone,[15] 1; Lee,[16] 4; Lusk,[17] 1; Martin,[18] of Chicago, 1; Goodell,[19] 2; Jones,[20] 1; Thomas,[21] 1; Dawson,[22] 1; Polk,[23] 3. In England we have thirty-five cases: Tait,[24] 15, 7 of pelvic abscess; McDonald,[25] 2; Lediard,[26] 1; Chapman,[27] 1;

[2] Ueber die Bedeutung der Spalträume des Bindegewebes. Volkmann klin. Vorträge, No. 57. Chirurgie.
[3] Œsterreichischer Med. Jahrbucher, Heft. 1 und 2, 1878. Virchow-Hirsch, Jahresbericht für 1878; Bd. II, page 579.
[4] British Med. Journal, June 9, 1878.
[5] Boston Med. Journal, March 14, 1881.
[6] Archiv für Gynæcologie, 1881, p. 463, und 1882, p. 476; also Virchow-Hirsch, Jahresber für 1882, Bd. II, p. 551.
[7] Diss. Gottingen, 1879. Virchow-Hirsch, Jahresbericht für 1880, Bd. II, p. 567.
[8] Transact. Obstetric. Society of London, May, 1883. Virchow-Hirsch, Jahresber für 1883, Bd. II, p. 578.
[9] Ibidum, November, 1883.
[10] Philadelphia Med. and Sur. Reporter, March 3, 1883.
[11] Centralblatt für Gynæcologie, N. 47, 1883.
[12] Transact. Obstetr. Soc., London, June, 1883.
[13] Amer. Journal of Obstetrics, July, 1883.
[14] Deutsche Med. Wochenschrift, N. 36, 37, 1883.
[15] Medical News, Philadelphia, August 23, 1884.
[16] Amer. Journal of Obstetrics, June, p. 463.
[17] Amer. Journal of Obstetrics, April, p. 383.
[18] Chicago Med. Journal and Examiner, August, 1884.
[19] Amer. Journal of Obstetrics, August, 1884, p. 858.
[20] Ibid., November, p. 1155.
[21] Ibid.
[22] Ibid.
[23] Ibid., February.
[24] Transact. Pathol. Soc., London, XXXIII, p. 202. Harveian Soc., London Lancet, March 10, p. 473. Medical Times, September 6, p. 318.
[25] Edinburgh Med. Journal, August.
[26] Lancet, September 20, p. 493.
[27] Archives de Tocologie, November, p. 964.

Savage,[28] 9, 8 of pelvic peritonitis and 1 of hæmatocele; Malin,[29] 7.

In Germany, twenty-two cases were reported: Martin,[30] 8 of suppurating hæmatocele; Gusserow,[31] 7, in 4 of which the sac was stitched to the abdominal wound; Saenger,[32] 5; Schroeder,[33] 1; Quetsch,[34] 1.

It is evident that the operation rapidly gained ground and that laparotomy has come to occupy a prominent place in the treatment of pelvic inflammations and abscesses. It may be objected that as yet the indications for the operation are not as clearly defined as we might wish them to be; in answer to this we can only say that the operation is new, and that we must consider the importance of the subject the guaranty of progress in the right direction.

I wish to add a few words about the subject, as it is modified in cases in which the periuterine abscess communicates with the rectum or some other part of the intestines. My remarks will have reference to the discussion of my paper on "Chronic Periuterine Abscess," the discussion of to-night being but a continuation of that broken off at our recent meeting for want of time. My paper was read before this Society in May 1885. I will refer as well to the discussion of Dr. H. T. Byford's paper on "Pelvic Abscess," read here December 18, 1885.

When a communication exists between an abscess and the intestinal tract, evacuation of the pus into the bowel is sometimes followed by spontaneous recovery. As a rule, however, such a condition is extremely dangerous, for the abscess cavity is constantly being infected with septic material from the intestine. Péan in his "*Diagnostique et Traitement des Tumeurs de L'abdomen et du Bassin*," T. II, p. 155, writes that a periuterine abscess may open into the cœcum, colon or rectum; that if a periuterine abscess opens into the intestine, bladder or uterus, septic infection will not fail to produce its symptoms, and may speedily prove fatal. This statement may be a little too broad. Schroeder, in his "*Krankheiten Der Weiblichen Geschlechtsorgane*," Leipzig, 1880, says that when the abscess has broken into the gut or bladder we have to deal with a grave condition, as it is difficult or impossible to reach the abscess from the vagina. At that time, in 1880, he had not thought of the practicability of laparotomy in such cases. When the abscess has evacuated itself into the rectum, he considers it less difficult to get access to it, and he advises cutting through the posterior *cul de sac* of the vagina, and dissecting upwards between the uterus and the rectum. Emmet[35] writes that when an abscess opens into the rectum, the case is very much complicated by septic infection through the fæces. The quotations given are sufficient for us to conclude that, when there is a communication between a periuterine abscess and the rectum, the patient is in great and constant danger of dying from septic infection, and that, therefore, an operation should be done if possible, to provide free drainage of the abscess. In discussing my paper, Prof. W. H. Byford said that he was opposed to the line of treatment suggested by me, that is, laparotomy; that the *sphincter ani* should be dilated or incised, the communication between the abscess cavity and rectum should be dilated with the finger, a steel dilator or the knife, the cavity of the abscess scraped, washed out, and drainage effected *per rectum*.

Aside from the old, now justly abandoned, puncture of a retrouterine abscess *per rectum*, Professor Byford's method of attacking such an abscess is to me entirely new. I have nowhere in the course of my reading met with a similar suggestion. If the abscess communicates with the intestine at a point beyond the rectum, a rectal operation is of course out of the question. If the opening into the rectum lies three inches or more above the anus, dilatation is hardly practicable. Such openings are often narrow and tortuous, the neighboring organs are immovable, and even if we divide the sphincter and the retrorectal tissues, we are obliged to work in the dark, for it is difficult or impossible to draw such an opening well down into view. The gentlemen present who have extirpated a carcinoma of the rectum, will appreciate the difficulties of operating high up in the gut.

But above all, I must earnestly warn you against adopting Professor Byford's plan of employing in this region a knife for the purpose of dilating the opening of an abscess. Working here with a knife, we always run the risk of opening the peritoneal cavity and of dividing large vessels which are bound in the wall of the sac, as I once demonstrated in the walls of an abscess situated in a broad ligament. The large uterine vessels may be found anywhere, and if wounded it is next to impossible to ligature them securely.

In a relatively small number of cases the abscess breaks into the rectum near the anus; in these dilatation may be tried, and it may even effect a cure, as we learn from Dr. H. T. Byford's case. However, we must have heard of more than one case before we can judge of the value of this method of treatment. Being somewhat enthusiastic over his rectal method, Dr. Byford disposes of laparotomy by saying: "The treatment by abdominal section cannot for a moment be entertained, for at least two reasons," of which the first one is that it is necessarily followed by a recto-abdominal fistula, which is incapable of being promptly cured and is apt to become an unfailing source of systemic infection. Of the numerous examples we have, I need but mention the perityphlitic abscesses to show that an intestino-abdominal fistula does not contraindicate the evacuation of the abscess. We operate to save life, whatever may become of the fistula afterwards; besides these fistulæ do frequently close. In the third case referred to in my paper, it closed in two months. The closure of a cœcal fistula is a common occurrence. The explanation is not far to seek. Whenever an abscess breaks into the gut the condition of the abscess necessitates such an outlet for the pus. When the abscess is drained through a counter-opening in the abdominal wall of the vagina, and thus transformed into a fistula, the necessity for emptying its contents into the bowel no longer exists, the opening has become useless, and it gradually contracts.

A fistula in itself is no source of infection. We never hear, for example, of a primary local tuberculosis originating in a fistulous tract. An anal fistula, when tuberculous is always preceded by a local tuberculosis.

Dr. Byford, further on, criticises my cases in particular, remarking that to operate as does Lawson Tait before the abscess has discharged and then treat

[28] Brit. Med. Journal, March 8, p. 453.
[29] Transact. Med. Soc., London, Oct., p. 228.
[30] Archiv. für Gynæcologie, Bd. 23, p. 414.
[31] Charite Annlen, IX, Jahr.
[32] Centralblatt für Gynæcologie, N. 32.
[33] Ibid., N. 4.
[34] Centralblatt für Gynæcologie, N. 19, 1884.
[35] Principles and Practice of Gynæcology, p. 2861.

antiseptically, is an entirely different matter. All I have to say to this is, that the Doctor has entirely misunderstood Lawson Tait. A letter I had the pleasure of receiving from Mr. Tait one month after I had published my cases, begins, "I have just read your extremely interesting articles in the *Annals of Surgery*." I shall now pass the letter around to the Fellows of the Society. In his second letter to me Mr. Tait says: "Concerning your operation for pelvic abscess I quite agree with you. Opening the abdomen is a very much more satisfactory way of dealing with these cases than any other." Dr. H. T. Byford's further remarks on my cases I shall pass by in silence, as I do not think their discussion is in order before the Chicago Gynæcological Society.

DR. EDMUND ANDREWS. It seems to me that the usefulness of the operation in proper cases is reasonably certain, but that we must be careful not to incur the risks of laparotomy when safer methods are available.

It will broaden our views somewhat, if we recollect that an abscess in the cellular tissue about the uterus does not differ materially in nature, principles of treatment, nor results, from abscesses in the cellular tissue in other parts of the pelvis and abdomen. One set of laws governs them all, both in pathology and treatment. A point to be remembered is, that many cases recover spontaneously in early stages, contrary to the statements of some eminent men. A professional gynæcologist or surgeon, whose patients are attracted to him from long distances on account of his reputation, gets a class of cases, because of their long standing and obstinate character. He has to combat the same tendency to error of judgment in one respect which besets the mind of a pathologist, whose conclusions are too exclusively drawn from the dead-house; that is to say, neither of them sees the numerous cases which recover under ordinary treatment, and therefore do not come before them. Recoveries from abscesses in the cellular tissue in all parts of the abdomen and pelvis are common, though they are apt to be very slow.

I recall two cases, attended by well-known physicians in this city, which recovered from such abscesses after suffering about a year. These abscesses discharged through the rectum. I have, perhaps, been somewhat slow in the treatment of these cases. For example, a retro-uterine abscess was brought to me from a distant State. It periodically discharged into the rectum above the reach of the finger. The patient arrived in Chicago in fair general health. Directly after her arrival, the discharges grew smaller in quantity, with longer intervals of time between, and she continued to progress in that way. Improving constantly in strength and activity, she began to make excursions and long visits to friends in neighboring States, and, in short, enjoyed life so thoroughly that I deemed a laparotomy not justifiable so long as she progressed so well towards recovery without it. I presume she got tired of my dilatory plan. At any rate, after some months of improvement, she ceased to report herself for periodic examination, and I lost sight of the case. I have a case now on hand, in a more debilitated condition. She is confined to her bed the greater part of the time. I expected to operate many weeks ago, but soon after I took charge of the case she showed signs of improvement, which led me to postpone the laparotomy to see what would occur. The discharges, which were from a point high up in the rectum, grew less in quantity and further apart in time. The temperature went down to the normal standard and remained there, the tumor about the uterus diminished in size, and nearly two months have now elapsed since the last small discharge of pus. The patient's vigor is slowly returning. Under such conditions, it is not certain that any pus-cavity remains. I deem it my duty to wait until the presence of such a collection of pus is reasonably certain before subjecting the patient to the perils of laparotomy.

Not long ago, I had the opportunity to make a post-mortem examination in a case of circumuterine abscess. The abscess had formed several years ago, after a difficult parturition. I saw the patient in consultation a few times during the last weeks of life. The pus was discharged, partly by the rectum and partly through a fistula midway between the *symphysis pubis* and the umbilicus. She had been subjected twice to some surgical operation, whose exact nature I did not learn. The operations were not laparotomies. Having received no benefit, the patient was determined that no more surgery should be tried on her. After some weeks she died of asthenia, and I was allowed a limited autopsy. The fistula above the pubes, after passing through the integuments, led downward and to the right, and at a point which seemed to be the right external inguinal ring; it entered the inguinal canal and followed the round ligament into the pelvis. Here it became more spacious, but exceedingly crooked and complicated, winding irregularly backward until it opened into the upper part of the rectum. All the viscera in the vicinity were glued together in a mass by old inflammatory deposits. There was no large abscess cavity at any one point, but still there was a flattened pocket some three inches long, and an inch or more in width, lying behind the rectum, in the hollow of the sacrum. It contained a little pus and fæces. This pocket might have been safely opened from below, working up outside the posterior surface of the rectum, had it been possible to ascertain its existence. I do not see how it could have been reached by laparotomy. The anterior fistula might have been benefited by freely slitting up the inguinal canal.

I feel compelled to differ with my friend, Dr. Henry T. Byford, in one point. He suggests very naturally that Tait's operation, performed after the abscess cavity has opened into the rectum, would make a complete intestinal fistula, which it might be impossible to heal. This thought is natural, and I confess I should think the same thing myself, had not an extensive observation upon fæcal fistulæ shown me the reverse. Experience teaches that an abscess cavity opening into an intestine, and filled with putrid pus and fæces, is very reluctant to heal so long as it is not freely drained and disinfected; but if it is widely opened, so as to make and maintain the shortest and straightest possible route from the opening in the cut to the external air, and if it be kept well cleansed and disinfected, fresh granulations will spring up, the orifice will contract and the fistula will heal, provided there is no stricture in the intestine below. This fact, or law, is very important, and applies equally to fæcal and urinary fistulæ, as I have verified by an abundant experience.

A striking case in point occurs to me at this moment. An eminent physician on the South Side requested me to take charge of one of his patients, a lady who seemed to have an anomalous hernia, and was sinking under a suppurative discharge from the bowels. On

examination, I found her confined to bed, and rapidly approaching fatal exhaustion. There were several evacuations daily of mingled pus and fæces from the rectum. The left hip was found prominent over the whole gluteal region. The tumor fluctuated on palpation, was resonant on percussion, and gave a succussion on coughing. At times it gurgled under pressure. I opened it very slowly and carefully, fearing to find an intestine there. After passing through the atrophied *gluteus maximus*, I entered a broad cavity containing neither intestine nor omentum, but filled with pus and fæces. This cavity being emptied and washed out, was easily traced up to the sciatic notch, where it entered the pelvis by an orifice of moderate size. I now ripped the cavity open for nearly its whole length, and kept it cleansed. Vigorous granulations sprang up at once, and the sac healed up rapidly and permanently. The patient seemed relieved of a great depressing influence, and rebounded at once toward health. She became plump and rosy, and rapidly regained her full strength.

DR. F. E. WAXHAM presented for examination a

FEEDING BOTTLE FOR USE IN CASES OF INTUBATION OF THE LARYNX.

The feeding bottle consists of an ordinary nursing flask, with a rubber cork, with a small vent, through which a tube passes to the bottom of the bottle. To this tube is attached another leading to the bulb of a Davidson's syringe, and this, in turn, is attached to a small-sized œsophageal tube. In using this apparatus, the gag is placed between the jaws, the tube introduced into the œsophagus, and the contents of the bottle quickly introduced by means of the bulb.

Many patients, especially young infants, do not take sufficient nourishment after intubation has been performed, on account of the coughing produced by the trickling of the liquid into the trachea. This apparatus obviates this difficulty.

Recent Literature.

The Principles and Practice of Medicine. By the late CHARLES HILTON FAGGE, M.D., F.R.C.P., Physician to, and Lecturer on Pathology at Guy's Hospital; Examiner in Medicine in the University of London; Senior Physician to the Evelina Hospital for Sick Children, etc. Edited by P. H. Pye-Smith, M.D., F.R.C.S., Lecturer on Medicine at Guy's Hospital, including a Section on Cutaneous Diseases, by the Editor, Dr. Pye-Smith; Chapters on Cardiac Diseases, by Samuel Wilks, M.D., F.R.S., Physician to Guy's Hospital and to the Royal Hospital for Children, London; and Complete Indexes, by Robert Carrington, M.D., Assistant-Physician to Guy's Hospital, London. Two vols. Royal octavo. pp. 1923. Phila.: P. Blakiston, Son & Co. 1886.

Our readers will easily recall the strong testimony in the British journals, to the great loss sustained by medicine in the death of Dr. Charles Hilton Fagge from aortic aneurism, at the comparatively early age of forty-five years, in November, 1883, and the many warm tributes to his great worth and accomplishments as a man and a physician.

It seems that during the last twelve years of his life, he had been occupied in preparing a treatise on the "Practice of Medicine," basing it, to a great extent, upon his laborious researches into the pathological and clinical records of Guy's Hospital, during the twenty years in which he held office there as medical registrar, as pathologist, and as physician. As a man of very varied, and at the same time, of sound learning, of quick natural parts, fortified by unflinching industry, both of which qualities were constantly exemplified, from the time of his graduation from the University of London, the winner of three special prizes and four gold medals in anatomy, materia medica, chemistry, and botany; as the occupant of a number of the most important positions in connection with medical institutions in London, he was in every way unusually qualified for the task he had undertaken.

Unfortunately, he did not live to bring it to a conclusion. The whole of the subjects under the head of internal pathology and therapeutics, had been written, and in great part re-written, with the exception of cardiac diseases, which had been left for the last; the subject of cutaneous diseases had not been begun. After Dr. Fagge's death, his manuscripts were placed in the hands of his friend and colleague at Guy's Hospital, Dr. P. H. Pye-Smith, to prepare the work for publication, and to supply the portions which were lacking. Dr. Pye-Smith, in addition to editing the entire work, has written the chapters on diseases of the skin, occupying one hundred and fifty-six pages in the second volume, and Dr. Samuel Wilks, also a colleague at Guy's Hospital, has contributed the chapters on cardiac diseases and a portion of that on diseases of the blood-vessels, in all, the first 80–90 pages of the same volume. The indices to authors and subjects at the end of the second volume is the work of Dr. Carrington.

The whole forms a very valuable addition to existing works in the English language on the principles and practice of medicine, and a suitable and handsome monument to the memory of Dr. Fagge. It is inevitable that a work thus finished should lack a certain unity and symmetry which it would otherwise have had, and this, notwithstanding the rare qualifications of Dr. Fagge's colleagues for the tasks they undertook, and the evident fact that theirs has been a labor of love.

The usefulness of the American reprint would be increased as a book of reference, if, in a second edition, each volume could have its separate index. We regret to notice on the title-page of each volume that a name so widely known as that of Dr. Wilks should be misspelled; this is the more inexcusable, as it is correctly spelled on the first page of the preface.

The work is appropriately terminated with a short memoir of the author, most of which is from the pen of his friend, Dr. Walter Moxon.

— The *Lancet* says that *The Friend of the Free States and Bloemfontein Gazette* gives a sad account of the spread of syphilis in Cape Colony. The *Gazette* speaks from memory, but thinks that one out of every three of the Colonial colored population is syphilized. The disease is especially rife in Basutoland and in the Barolong Territory, not only among the natives, but in many places, among the burghers and their families. The disease is spread by filthy habits, even among those who are not guilty of sexual immorality.

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THE HYDROPHOBIA QUESTION.

SOME five months ago, we laid before our readers the few established facts which, up to that time, lay at the basis of the popular *furore* over the methods of M. Pasteur in his endeavors to provide a preventive treatment which should be effective against hydrophobia. Since that time, further reports have been made by the distinguished chemist to the French Academy, and these, together with the recent paper and discussion in the New York Academy of Medicine, which we laid before our readers last week, seem to present the occasion for another view of the subject.

Dr. Biggs and Dr. F. S. Billings, who have visited Pasteur in his laboratory, have also published the results of their observations, tinged, in each case, with a strong color of personal enthusiasm for their master. Of the one factor, time, which is to be the most important in the elucidation of this subject, we have had a certain amount, but by no means enough, as yet, to authorize a final verdict.

Pasteur still carries on his work: inoculates rabbits under the dura mater with the cords of rabid dogs, and thus produces an alleged rabies. This he transmits by a series of inoculations through other rabbits, developing in its progress an increasingly virulent disease, with a period of incubation shortening from fifteen to seven days. From the last rabbit of this series, he removes the cord and hangs it up in a dry atmosphere, at 20° C., for a greater or less time, to be *mitigated*. Such an exposure for fifteen days gives the weakest potency of the virus, suitable, when rubbed up with sterilized bouillon, for the primary preventive inoculation of animal or man, and devoid of injurious effects, even when introduced into a rabbit. Successive days witness inoculation, in the preventive treatment of the human subject, with ever fresher, and therefore, more virulent cords, till the final one, which on the tenth or eleventh day, is made with a cord but one day old, and of activity sufficient to produce death in a rabbit in seven days.

Joseph Meister, the Alsatian boy, who was the first subject of the inoculations in July last, remains alive and well. But there is a doubt growing in the minds of many whether the dog that bit him was mad, the only evidence of the fact, at present, being the somewhat doubtful interpretation of the autopsy. Up to the first of March, some three hundred and fifty persons had received inoculation at the hands of M. Pasteur. There has been but one death, that of Louise Pelletier, a child of ten, who was bitten October 3. She received her first inoculation on the thirty-seventh day thereafter (too late, as M. Pasteur claims, for the preventive action to be certain). The operation was repeated, as usual, daily for ten days. Fifteen days after the treatment ended she was attacked with undoubted hydorphobia, and died in three days. What killed her?

This is, thus far, the crucial question for Pasteur's method, and it is not, we feel, satisfactorily answered. His argument that because a portion of her brain, injected into a rabbit caused the latter's death in fifteen days, and not in seven days, therefore her disease was, induced *not* by the inoculation, on the ground that the type of the disease transmitted by the intensified virus of a series of rabbits always causes death in seven days, is open to the obvious retort that she was not a rabbit, and that, therefore, the chain of phenomena usually observed in an unbroken series of rabbits may have undergone modification when a human being was introduced into that chain. For, indeed, Pasteur himself has showed that while rabies was intensified in its passage through a series of rabbits, its virulence was much lessened, and finally destroyed in passing through a series of monkeys: and it is entirely possible that the human organism is, in this respect, more like that of the monkey than of the rabbit.

On the other hand, however, it must be admitted that the arguments are not more logical of those of Pasteur's critics, who, in one breath, claim that his propagated virus is not that of hydrophobia at all; and in the next, charge him with causing the death of this girl by bestowing upon her a disease which she would never have had at all but for him.

Time has shown that the dog which bit the Newark children was doubtless not rabid, for nature kindly provided a control experiment in two children left at home untreated, and in a number of dogs bitten at the same time, but never having shown any symptoms of rabies. There is no means of knowing with certainty in any of the three hundred and fifty cases inoculated that the dog was really mad, and we know from the figures of Bollinger, that only forty-seven per cent. of those bitten by dogs undoubtedly rabid and remaining untreated, develop the disease, while even that proportion is greatly reduced when timely cauterization has been practised. Of course, it is a matter of significance if all these persons have, as the report to the Academy indicates, been made the subjects of injection on the last days of their respective treatment with a material which uniformly produces death in rabbits in seven days, and in dogs in eight or ten. It may, however, only prove that of a certain virus, rabid or otherwise,

which to some of the lower animals is very fatal, man is not susceptible. The proof that men, or even dogs, who would otherwise have had rabies, have been rendered refractory to it by preventive inoculation, is, from the nature of the case, to be very slowly gathered. Indeed, it can be had only from the results of a very large number of instances, in each of which the probability of rabid infection was very great. For this we have still to wait.

The other objections to Pasteur's claims, the uncertainty whether the disease of which his rabbits die is really rabies, the possible effect upon these animals of trephining and injecting material under the dura, irrespective of any virus that the material may contain; the uncertainty that a dog alleged to be made refractory to rabies, as conveyed by hypodermatic injection of a portion of rabic cord, would be equally so to the saliva carried in the bite of a rabid dog. These, and still other objections, are strongly stated by Dr. Flint in the discussion referred to, and some of them were referred to by Guérin in the French Adademy.

On the other hand, M. Bouley, the late President of the French Academy, with a precipitant fervor, which does not seem to be peculiar to the Gallic nature, hailed the day of the announcement as a sort of Crispian's day for French science, and the session of the Academy as destined to be ever-memorable and ever-glorious, in the history of medicine.

It must be admitted that certain criticisms that have been made seem trivial. Pasteur made a mistake, undoubtedly, when, some years ago, he announced the discovery of the microbe of rabies, and this error, we understand, he now admits. The injection of a crude substance is a less elegant means of inoculation than that of microbes isolated and grown in pure cultures. But in the absence of the latter, the former method has worked satisfactorily enough for many years in vaccination.

Slow acceptance and incredulity are no permanent bar to any discovery, provided it really *is* a discovery. They are rather the inevitable concomitants of all great and permanent advances in the scientific world; and the attitude which they express is, after all, friendlier to any true progress, than is the spirit which has been so rife in the present instance of turning what should be a grave study, solemn with its responsibilities to the race, into a spectacular drama, garish with lime lights and colored fires.

Pasteur has been utilized for business purposes by the enterprising daily press precisely as were Stanley and Tweed. This unfortunate feature of the case does not, of itself, disprove the value of Pasteur's discoveries, but it makes it incumbent upon medical men to stand out of the hurly-burly, to suspend judgment, and until time brings forth further proofs or disproofs, to wait.

[Since the above was in type, we note a telegraphic report of the death of another of Pasteur's subjects, from hydrophobia, a wolf-bitten Russian. The report however, lacks detail.]

THE HEALTH OF BOSTON FOR THE YEAR 1885.[1]

The deaths in Boston in 1885 were 9,618, as compared with 9,622 in 1884, and 9,740 in 1883, or at the rate of twenty-four to each 1,000 of the population.

Although the death-rate is comparatively high, assuming the census to be correct, the absolute number of deaths is less than either of the two years previous, while the record of the number of deaths from preventable causes, which constitutes the true gauge of the efficiency of sanitary administration, shows a very marked falling off from previous years. Ten years ago the deaths from these causes constituted one-third of the total number of deaths. Three years ago this number was reduced to about one-fourth of the total deaths. The proportion has continued to decrease until now, when the preventable deaths for the past year are less than one-fifth of the total mortality, or exactly 19.5 per cent. This is a lower death-rate from preventable causes than is recorded in any other of our leading cities, excepting only Philadelphia, where the rate is about the same. The statistics of mortality under the age of five years are equally satisfactory, and show a percentage to the total mortality of 36., the lowest for fifteen years.

The most fatal factor of the city's mortality is consumption, which accounts for over fifteen per cent. of the total number of deaths. Two other respiratory diseases closely associated with consumption are bronchitis and pneumonia, and these three together account for one-fourth of the total mortality.

The deaths from small-pox were two, from measles eighty-four, scarletina one hundred and fifty-six, diphtheria three hundred and thirty-four, croup one hundred and twenty-five, whooping-cough twenty-six, typhoid-fever one hundred and fifty-two, erysipelas forty, puerperal fever twenty, carbuncle seven, dysentery sixty-two, diarrhœa one hundred and seventy, cholera morbus thirty, cholera infantum four hundred and sixty-one, cerebro-spinal fever, nineteen, pyæmia eleven, septicæmia thirty-one.

The nearness of the city of Montreal, with its recent and severe epidemic of small-pox, and continuous communication with Boston, made it seem probable that the disease would find entrance here; but the vigilant inspection of all persons in our quarantine, the inspection-service instituted and maintained along the whole border-line between Canada and the United States by the Marine Hospital Service, and the additional inspection-service maintained by the New Hampshire Board of Health, together with efficient vaccination and revaccination, were so successful that only twelve cases are known to have occurred in Boston.

The danger of an introduction of cholera while it prevailed in Italy, France and Spain, was the exciting cause of a general and almost unprecedented activity with health boards throughout this country. The alarm felt was not confined to health authorities, but prevailed to a great extent among all classes of our

[1] Report of the Board of Health of the City of Boston for the year 1885.

people. The result was that larger appropriations of money were quite universally made in cities and towns throughout the country; the people became more tractable, and willing to respond to the demands for cleanliness and new innovations for sanitary reform, and thus more work with less opposition was accomplished.

The fact that cholera did not come should not be allowed to detract from the value of the work done, as it is not alone cholera that is invited by uncleanliness or defied by good drainage and sanitary reform. There are many diseases in our city which are more to be feared than cholera. It is only fair to assume that the large reduction in the number of deaths from zymotic or preventable causes during the last half of the year, was, in part, due to the greatly improved sanitary condition of the city. It is believed that no case of cholera reached the American shore during the past season.

Increased activity and vigilance were instituted early in the season, and have been maintained in our quarantine throughout the year. Cholera in Europe and small-pox in Montreal raged with unusual virulence. Communication between these places and Boston being frequent, cargoes, baggage, and persons have been treated with more than ordinary care and scrutiny, and it is believed that no cholera-infected person or cargo has passed the quarantine during the season. Special inspection was ordered for all vessels arriving in this port from Canada and Newfoundland, and all persons were vaccinated or revaccinated who did not show satisfactory evidence that they had very recently been so treated. It was found that more than half of the crews on vessels sailing between the Provinces and this port were in need of vaccination.

In requiring the disinfection of all foreign rags, we believe that the board is demanding much more than is necessary, to the injury of trade and manufactures.

In insisting that all rags shall be disinfected within the bale, and that the steam process, which in Boston is managed by a stock-company, is the only satisfactory one, we think that the board has made an additional mistake. Indeed, the fact has been ascertained that in certain inspected cases there was no real disinfection, while there are competent persons who doubt whether a single bale has been properly disinfected at this port. At all events, the board had nothing in the way of actual experiment to show that the process can be made effectual without spoiling the rags and rendering the process ruinous as a commercial enterprise. For our views in full with regard to the comparative harmlessness of foreign rags as importers of cholera, particularly from healthy ports, we refer our readers to an editorial dated July 27, 1882.

There was less complaint of the quality of our drinking-water during the last year than for many years previous, and, so far as the taste and appearance are concerned, they have both been improved. The chemical examinations also show an improvement in the purity of the water.

The wells in use within the city have been looked to, and wherever any suspicion of pollution has attached to them, the waters have been submitted to chemical examination, and, if found to be unfit for domestic uses, the owners have been ordered to fill up the wells.

The intercepting sewer continues to serve well the purposes for which it was constructed. The board calls attention to the lack of proper sewerage in certain low districts, particulary in Dorchester, and appeals again for the completion of a metropolitan system to include Cambridge and Somerville.

The following nuisances were abated during the year:

House drains repaired, 4,238; Vaults cleaned and repaired, 3,958; Traps supplied, 1,297; Yards cleaned, 1,001; Stagnant water removed from vacant lots, 274; Water-closets repaired, 1,230; Cellars cleaned, 1,053; Cesspools cleaned, 424; Privies repaired, 245; Vacant lots cleaned, 199; Fowls removed, 151; General want of cleanliness of premises, 293; Receptacles provided for garbage, 113; Passage-ways cleaned, 238; Stables put in order, 142; Swine removed, 72; Sundry nuisances, 282; Manure removed, 216; Roofs repaired, 9; Sheds cleaned, 62; Tenements whitewashed, 409; Rags removed, 6; Cows removed, 11.

The number of houses ordered to be vacated during the year was 160, of which only 15 were actually vacated. The other houses having been put in proper condition before the expiration of the time specified in the notice, the tenants were allowed to remain.

3,503 rooms were disinfected, for infectious diseases. The number of *places* disinfected for all causes was 76,615, it being understood that many places were disinfected many times and count correspondingly. 783 privy vaults were abolished. The sanitary condition of the abattoir remains good in most respects. The 11 public urinals, 19 registered infant boarding-houses and 9 lying-in houses were properly inspected and kept in order. At the public baths there was an increase of 135,821 baths over the previous year, namely, of men and boys 762,730, of women and girls 197,035. There were 14 prosecutions during the year.

THE HEALTH OF CABINET OFFICERS.

Within the past few days no less than three members of the President's cabinet have been reported as unable, by reason of illness, to attend to their duties. One, Secretary Manning, has experienced a serious, not to say alarming, cerebral attack. The cause of the illness is said to be overwork. Doubtless the exertion necessary for any man to familiarize himself with important duties which are as foreign to his previous experience as are those of many cabinet officials, under the present mode of their selection, must involve a great deal of hard work.

It is possible that there may have been cabinet officers in the past who retired from office as innocent

of any practical knowledge of the duties of their departments as they went in; but as a rule, it is of course fair to assume that men accept such positions only with an intention of acquainting themselves thoroughly with the work. When to this task, itself a grave one, is added the pressure that imperfect civil-service methods still allow to be brought upon the head of any department which has the bestowal of patronage, and when over all come the social demands which are so numerous and exacting upon men in high official station, there is little reason to be surprised if the accumulated tension proves to be too much.

MEDICAL NOTES.

— A National Sanitary Convention, the object of which will be to afford an opportunity for an expression of opinion on matters relating to the public health and the discussion of methods looking towards an advancement in sanitary conditions, the prevention of sickness and avoidable death, and the improvement of the conditions of living, is to be held in Philadelphia, under the auspices of the State Board of Health, on Wednesday, Thursday, and Friday, May 12, 13, and 14, 1886. At a later date a circular of details will be issued. The Chairman of the Committee of Arrangements is Joseph F. Edwards, M.D., 224 S. 16th Street, Philadelphia, Pa.

— The *Medical Press* thinks that among the errors of the last British Pharmacopœia, the ordering of nitro-glycerine to be dispensed in chocolate tablets is perhaps the worst. Not only is the dosage uncertain and the manipulation required dangerous, but this method of administration is slower in action and exceedingly expensive; in fact, it is difficult to conceive why the compilers of the last edition of the Pharmacopœia should have gone out of their way to choose so inconvenient and impracticable a vehicle when the one per cent. solution of the drug, which has been in general use for a considerable period, was open to them. It is stable, easily gauged, and prompt in action, and has, in fact, all the merits which are conspicuous by their absence in their present formula. The tablets in question are not stamped, and bear no indication of their nature and strength, and mistakes which might be dangerous in their results may easily occur.

— By lacerating the aortic valves by the aid of instruments passed into the aorta through the carotid artery, M. François Franck has been able, we learn from the *Lancet*, to study the immediate and remote effects of this experimental form of aortic regurgitation. In some cases death supervened rapidly, especially when the heart was diseased previously. If the animal survived, the arterial tension, at first lowered, mounts again, and the heart becomes hypertrophied and its vascular activity is increased. According to M. Franck, the excessive work of the heart is not to be solely attributed to the aortic reflux, but also to an irritation of the sigmoid region, on the ground that slight lesions or a superficial irritation of this region give rise to similar hypertrophy. He also explains the danger of syncope in cases of aortic incompetence by the excessive and prolonged distension of the cardiac cavities, as well as by the depression of the arterial tension of the brain.

NEW YORK.

— The graduating exercises of the training-school for nurses connected with the New York Hospital were held at the hospital building on the 2d of April. Diplomas were presented to nine graduates, and addresses were made to the class by Dr. Beverly Robinson, of the out-patient department, and Truman J. Backus, LL.D., President of the Packer Collegiate Institute of Brooklyn.

—The fifty-sixth annual commencement of the New York College of Pharmacy was held at Steinway Hall, March 30th. A prize microscope, offered by an anonymous friend of the college for the best examination in botany, was won by F. S. Qunitana; and Prof. C. F. Chandler presented a valuable pair of balances to William Buckbinder, who stood highest in the class for general proficiency. The graduating class was the largest ever turned out by the college, numbering nearly one hundred, and the address to it was made by the Hon. John R. Brady, in his usual felicitious style. Judge Brady probably has more funny stories, and can tell them in a more amusing manner than any other man in New York.

—An apparently genuine case of rabies has occurred in Newark. The victim was George Neall, forty-one years of age, who was keeper of the dog-pound in that city. He was bitten on the wrist by a Spitz dog, February last; and the case terminated fatally on the 30th of March. Before he died, he was seen in consultation by Dr. H. M. Biggs, of the Carnegie Laboratory, who has recently returned from Paris. Dr. Biggs was also present at the autopsy, and has since inoculated some dogs and rabbits from the brain and spinal cord of the patient, with a view of testing the real character of the case. Dr. Braden, one of the Newark physicians who attended the patient, got some of the saliva of the latter in a cut on his hand, and has decided to make a visit to Pasteur in consequence.

— A portion of a new building in course of erection by the notorious Buddensiek (who was last year convicted of manslaughter in connection with another similar "accident,") having fallen down and injured several children, one of them quite seriously, the *New York Times* thus very properly gives vent to its indignation: "The builder of this edifice is a tried, convicted, and sentenced felon, who would now be learning some more honest trade than that of building man traps, but for Judge Van Brunt. Judge Van Brunt exercised his judicial discretion by admitting Buddensiek to bail through a sympathetic apprehension that the Court of Appeals might find that he had been improperly convicted. No doubt Judge Van Brunt deeply regrets

the collapse of the house Buddensiek has taken advantage of his liberty to build. He ought to give Buddensiek a talking to, and let him understand that it is unseemly and in bad taste for a man under the sentence of manslaughter to be committing fresh manslaughter. Perhaps Buddensiek might be touched by the painful position in which he has put his judicial friend and liberator. It was certainly very indiscreet, to use no harsher word, for the children to stand under one of Buddensiek's buildings while Buddensiek's appeal was still pending. Their offence almost amounts to contempt of court, and possibly Judge Van Brunt may issue an injunction prohibiting the most severely injured child from dying until the court above has decided whether Recorder Smith erred in admitting a photograph of Buddensiek's other building.

PHILADELPHIA.

— The Sixtieth Annual Commencement of the Jefferson Medical College was held at the Academy of Music, April 2d. The address was delivered by Prof. Theophilus Parvin. Prof. Wm. H. Pancoast has resigned from the Chair of Anatomy, to which he succeeded upon the resignation of his father in 1874. Another chair has been rendered temporarily vacant by the ill-health of Prof. S. W. Gross, who was obliged to discontinue his lectures before the close of the session, and has gone to Mexico to recuperate. The Alumni Association had its annual meeting April 1st, the address being delivered by W. H. Warder, M.D.

— The Sixth Annual Commencement of the Medico-Chirurgical College of Philadelphia was held upon the day following that of the Jefferson College; the valedictorian of the occasion was Prof. F. Woodbury.

Miscellany.

THE TREATMENT OF MALARIAL FEVERS WITH TINCTURE OF IODINE.

In the *Indian Medical Gazette*, December, 1885, Mr. W. E. Hendricks gives his experience with the use of iodine in the treatment of malarial fever. Since the 15th of April last he has treated fifty cases of malarial fever by this agent. He believes that the iodine constitutes an efficient and cheap substitute for quinine. He has tried not only quinine but all the alkaloids, and arsenic as well; and in one or two cases he claims that more beneficial effects were derived from iodine than from quinine. Its use has been followed by no bad results. He was first induced to try the effects of iodine internally in a case of tertian ague with congested spleen of enormous size; with the thought that instead of applying the tincture externally, which after a period of sixteen years he had found almost useless, perhaps better results might be obtained by internal administration. For this purpose five minims each of the iodine and iron tinctures were given in an ounce of water twice daily, and after continuing this treatment for six days the fever that before then had come on regularly every day for three months quite disappeared, and the spleen began to diminish in size. The case remained under treatment for one month, up to which time the fever never returned, although the spleen still remained slightly enlarged. Of the fifty cases treated he states that there has been no return of fever as yet, though some of the cases were treated as long as six months ago; the average retention of the patient on the sick-list so treated was only four and three-tenths days. In only one case had he to increase the dose of iodine from five to ten minims, the former quantity not being sufficient to produce complete recovery, although the duration of the fever was cut short from three to six hours. Headaches as the result of malaria have also been successfully treated by this drug.

THE HYGIENE OF THE NEWLY BORN.

The following instructions to mothers and nurses, prepared by a commission composed of Moutard Martin, Bergeron, Parrot, Blachez and Dujardin Beaumetz, have been issued by the head of the Department of Public Charities, Paris: —

1. Till the appearance of the first teeth, i.e., between the sixth and seventh months, the only food of the infant should be milk, that of the mother preferably, if she be in good condition, otherwise that of a wet nurse. It is very dangerous to give an infant solid food of any kind during the first months of its life.

2. The child should be offered the breast about once in two hours, and less often in the night.

3. In the event of inability to provide woman's milk the milk of the cow or goat may be substituted. This milk should be given warm, diluted with one-fourth part water, and slightly sweetened. At the beginning of the fifth month the milk may be taken pure. All other liquids employed to dilute the milk (thin gruel, bread-water, barley-water) are injurious.

4. In feeding the infant, glass nursing bottles should be employed. These, especially the tubing and the mouth piece, should be thoroughly cleansed every time they are used. Never allow nurses to resort to those "sugar teats" with which some mothers seek to appease the cries of the infant, and which are sure to produce canker, and disorder the digestion.

5. It is not till the sixth or seventh month that one should begin to allow farinaceous substances with milk, such as bread, baked flour, rice, arrow root, mealy potatoes; these supplementary foods should always form a considerable part of the infant's dietary towards the end of the first year, to accustom the child to weaning. Weaning ought not to be thought of till the first twelve or sixteen teeth have pierced the gums, while the infant is in a good state of health, and during the lull which follows an eruption of teeth.

6. Every morning the "toilet" of the little one should be made before suckling or feeding; this toilet consists: (1) in washing the child's body, and especially the genitals, which ought always to be kept clean; (2) in scrubbing the head, on which it will not do to let scurf or dandruff accumulate; (3) in changing (at least every second day) the child's underclothing; (4) in giving a warm bath in which the infant should be held five or six minutes. The belly band ought to be kept on during the first month.

7. Swaddling clothes, which cause compression of the body, should be interdicted. The more freedom the young child has in its movements, the more robust

it becomes, and the better its development. All swathing which encumbers the neck and head should also be discarded.

8. The infant should be protected against the injurious effects of excess of cold and heat, whether out doors or in the house; within doors, the air should be renewed several times a day.

9. It is not safe to carry the babe into the open air before the fifteenth day, unless the temperature is very mild.

10. The child ought not to be allowed to sleep in the same bed with its mother or nurse.

11. The bed of the infant should be composed of oaten straw, soft thatch, or husks; the cradle should have curtains during the first months of infancy, and especially during the cold season, to avoid currents of air, but these curtains should never be completely closed. The babe ought not to be rocked.

12. There should not be undue haste in teaching the infant to walk; it should be allowed to creep on the floor and help itself up; walking carts and baskets should be discountenanced.

13. The least indisposition on the part of the infant (colic, diarrhœa, vomiting, cough) should be at once attended to.

14. As pregnancy has the effect to render the milk less nutritious, in case of pregnancy, every nursing woman should cease to suckle her infant.

15. It is a good plan to vaccinate infants during the first three months after birth, or during the first few weeks, if an epidemic of small-pox is prevailing.

NEUROPATHIC ŒDEMA.

THE *Medical and Surgical Reporter*, commenting on the local œdematous conditions occasionally found in cases of myelitis and of tabes, says that they are often pronounced indications of an existing kidney complication, and are not seldom looked upon as important factors for the prognosis. Drs. Mathieu and Veit have made a special study of the subject, and come to the conclusion that these œdemas are no evidences whatever of diffused kidney diseases, but simply trophic disturbances, due to an alteration in the nutrition of the skin and the subcutaneous tissues. They found that these swellings frequently select the places which previously were the seats of lancinating pains, joints that had been painful were later similarly affected, and the swellings extended exactly over the regions supplied by the painful nerves. In acute articular rheumatism similar œdematous swellings occur. Here also no form of Bright's disease need be present, which was absent in all the cases of myelitis and tabes observed by Mathieu and Veit. They probably depend upon vaso-motor disturbances. While repeated analyses of the urine can alone determine the question in each individual case, the peculiar seat of the œdema—in the thigh or upper arm, or around one joint, or surrounding two joints on the same side—does generally indicate their true nature, for in Bright's disease either the ankles and the parts of the leg near them or the tissues surrounding the eyes become first affected with œdema in diffused kidney disease. Besides, these swellings in morbus Brightii are never one-sided; they are apt, when not extensive, to disappear while the patient is in the recumbent position, and get worse towards night, after the patient has been much on his feet.

THE COMPOSITION AND MANUFACTURE OF OLEOMARGARINE.

WE learn from the *National Druggist* that substantially the following method is observed in the manufacture of oleomargarine: —

A mass of animal fat is heated to a temperature of 120° to 125° F. Salt is sprinkled over the top of the mass, and assists in the purification and settlement of it. The fat becomes an oil, and is allowed to settle, and the best of it, or the straight fat goes to the bottom, and when taken out is exported to Europe for candle-making. The clear fat is taken off, and is placed in large boxes holding from 500 to 600 pounds. In these boxes the fat is allowed to stand until cool, and it meanwhile granulates. Then it is put into heavy duck bags and placed under hydraulic pressure of generally about fifty tons to the square inch, though it sometimes reaches seventy tons, and the oleo oil flows out, leaving a hard mass of stearine, which is extensively used as an ingredient of lard.

The oil is then mixed up with certain proportions of milk and genuine butter, the latter forming as high as thirty-three per cent. of the whole, and as low as five per cent., as the case may be. It is then churned up precisely like genuine butter, and comes forth oleomargarine. Sometimes considerable suet is used instead of the straight animal fat. This is at present the best and cheapest way of making oleomargarine, and is said to be the one generally followed, and the long list of deleterious and injurious substances does not appear. Butterine is, practically, a compound of lard and butter.

THE MORTALITY OF THE MEDICAL PROFESSION.

IN the Journal of the Statistical Society some years ago, some figures were given which appeared to show that while the longevity of doctors was somewhat smaller than that of clergymen and lawyers, it still compared favorably with that of men in most other callings. But recently, Dr. Ogle, the successor of the late Dr. Farr as superintendent of the Statistical Department in the English Registrar-General's office, has furnished new data, which rudely shock any flattering unction of long life that doctors might lay to their souls.

The death-rate among the doctors is not only high, but it is also on the increase. In the years 1880, 1881, and 1882, the mortality was higher than that seen in other professions. It was also above the death-rate exhibited by doctors for two decades or so before. From 1880 to 1882, the lawyers died off at a rate of 20.23 per 1000; and the "cosy parson" for these years showed a death-rate of only 15.93. The doctors, on the other hand, exhibited a death-rate of 25.53 per 1000. Again, when the medical mortality is compared with the death-rate of teachers, with that of the commercial travellers, or even with that of the miner and his coal-dust lungs, these fairly unhealthy or very unsanitary occupations are found to present favorable comparison with the doctor's chances of old age. True, the inn-keeper, the butcher, the brewer, the quarryman, the cutler, and the workers in certain other trades, are behind the doctors in the matter of mortality. But this, at the best, is but a poor compliment

to the chances of health and welfare which medicine offers to its votaries. The causes of medical deaths are given by Dr. Ogle in an interesting manner. He takes the death per million of doctors and of all other men, and shows the relative proportions in these two death-rates. Thus per million of medical men and per million of other men, the death-rate from scarlet fever is as 59 to 16; from typhus, as 79 to 38; from diphtheria, as 59 to 14; from typhoid fever, as 311 to 238; from alcoholism even, as 178 to 130; from suicide, as 363 to 238, and so on. In the matter of suicide, Dr. Ogle tells us that self-destruction by poison is the preferential method of the profession. Liver disease kills off a moiety of doctors; and a great authority has explained this fact by a reference to the irregular dietetic habits which the business of a doctor induces. In the matter of small-pox, the doctors come out triumphantly. The annual death-rate from small-pox among all males above twenty years of age, is 73 per million. Among medical men, it is only 13 per million. Here, probably, thorough vaccination tells its own tale of safety and prevention, although it is clear that the death-roll in respect of other troubles, more than counter-balances the small-pox gain.

REPORTED MORTALITY FOR THE WEEK ENDING MARCH 27, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Typhoid Fever.	Whooping Cough.	Diphtheria and Croup.
New York	1,340,114	793	278	15.34	15.47	.91	2.73	6.50
Philadelphia	927,995	429	153	7.82	14.26	2.76	.46	4.60
Brooklyn	644,526	304	53	11.34	—	.65	1.62	4.10
Chicago	632,100	—	—	—	—	—	—	—
Boston	390,406	191	60	15.37	16.43	1.06	.53	6.36
St. Louis	408,520	192	70	10.12	16.64	2.60	1.04	4.16
Baltimore	400,000	—	—	—	—	—	—	—
Cincinnati	272,400	115	34	6.09	14.79	.87	—	2.57
New Orleans	234,000	120	25	9.13	23.24	.83	.83	2.49
Buffalo	201,000	94	36	12.72	29.68	3.18	1.06	1.06
District of Columbia	194,310	—	—	—	—	—	—	—
Pittsburgh	180,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	—	—	—	—	—	—	—
New Haven	62,882	—	—	—	—	—	—	—
Charleston	54,400	31	10	3.23	16.15	—	—	—
Nashville	52,286	18	9	22.22	22.22	5.55	—	—
Worcester	68,383	27	12	18.51	37.03	—	—	3.70
Lowell	64,051	28	7	7.14	10.71	3.57	—	3.57
Cambridge	59,660	20	3	10.00	15.00	—	—	—
Fall River	56,863	11	7	9.09	18.18	—	—	9.09
Lynn	45,861	15	4	6.66	26.66	—	—	—
Lawrence	38,825	17	4	—	29.40	—	—	—
Springfield	37,577	15	2	6.66	13.33	—	—	—
New Bedford	33,393	11	0	—	36.36	—	—	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	13	4	—	—	—	—	—
Holyoke	27,894	12	6	50.00	16.66	8.33	8.33	—
Chelsea	25,709	12	5	—	25.00	—	—	—
Taunton	23,674	4	1	—	—	—	—	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	4	3	—	—	—	—	—
Brockton	20,783	7	2	—	42.84	—	—	—
Newton	19,759	5	3	20.00	20.00	—	—	20.00
Malden	16,407	2	1	—	50.00	—	—	—
Fitchburg	15,375	5	0	21.00	40.00	—	—	—
Waltham	14,609	7	3	14.28	28.51	—	—	14.28
Newburyport	13,716	8	1	12.50	38.50	—	—	12.50
Northampton	12,896	9	2	11.11	11.11	—	11.11	—
93 Massachusetts Towns	—	67	14	7.40	26.78	—	2.96	2.96

Deaths reported 2,576: under five years of age 792; principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 282, consumption 366, lung diseases 371, diphtheria and croup 114, whooping-cough 37, typhoid fever 36, scarlet fever 20, cerebro-spinal meningitis 16, diarrhœal diseases 16, measles 12, erysipelas seven, puerperal fever six. From scarlet fever, New York nine, Boston five, District of Columbia, two, Nashville, Springfield, Fitchburg, Marblehead one each. From cerebro-spinal meningitis, New York six, Worcester four, Boston two, Nashville, Holyoke, Salisbury and W. Springfield one each. From malarial fever, New Orleans six, New York five, Baltimore and District of Columbia two each, Nashville one. From diarrhœal diseases, New York seven, Boston five, Charleston, District of Columbia, Cambridge, and Fall River one each. From erysipelas, New York six, Boston one. From puerperal fever, New York three, District of Columbia two, Cambridge one.

Cases reported in Boston: scarlet fever 33, diphtheria 27, typhoid fever 12, and measles seven.

In 110 cities and towns of Massachusetts, with a population of 1,320,837 (population of the State 1,941,465), the total death-rate for the week was 19.29 against 18.54 and 17.41 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending March 13th the death-rate was 28.0. Deaths reported 4,873: infants under one year of age 986; acute diseases of the respiratory organs (London) 855, whooping-cough 191, measles 122, diarrhœa 36, scarlet fever 30, fever 31, diphtheria 18, small-pox (Liverpool) two.

The death-rates ranged from 19.3 in Brighton; to 35.7 in Manchester; Birkenhead 23.0; Birmingham 25.5; Bradford 24.7; Hull 21.0; Leeds 25.2; Leicester 21.7; Liverpool 33.8; London 28.7; Nottingham 24.2; Plymouth 35.4; Portsmouth 28.7; Sheffield 19.6.

In Edinburgh 21.5; Glasgow 33.7; Dublin 38.3.

For the week ending March 13th in the Swiss towns, there were 49 deaths from lung diseases, consumption 43, small-pox 15, diarrhœal diseases 10, whooping-cough 11, diphtheria and croup nine, puerperal fever two, erysipelas and typhoid fever each one.

The death-rates were: at Geneva 21.2; Zurich 17.2; Basle 29.2; Berne 28.9.

The meteorological record for week ending March 27, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps. —

Week ending Saturday, Mar. 27, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday, ..21	29.430	34.9	38.9	31.6	100.0	93.0	93.0	95.3	E.	N.E.	N.	31	24	16	R.	O.	O.	—	—
Monday, ..22	29.316	38.2	46.4	31.2	86.0	53.0	74.0	71.0	W.	S.W.	W.	6	24	14	O.	O.	O.	—	—
Tuesday, ..23	29.472	34.2	41.0	28.2	80.0	46.0	72.0	66.0	W.	N.W.	N.W.	12	20	20	O.	T.	O.	—	—
Wednes., .24	29.892	29.8	36.0	22.0	61.0	55.0	61.0	59.0	N.W.	N.W.	N.W.	24	28	9	F.	C.	C.	—	—
Thursday, 25	29.963	39.7	46.0	28.0	59.0	45.0	84.0	62.7	S.	S.W.	W.	2	14	9	O.	C.	O.	—	—
Friday, ...26	29.955	47.3	53.2	40.0	47.0	28.0	33.0	36.0	W.	N.W.	N.W.	11	22	6	O.	C.	C.	—	—
Saturday, .27	30.196	42.0	51.3	33.3	44.0	57.0	96.0	65.7	S.W.	S.W.	S.E.	8	10	5	O.	O.	N.	29	1.29
Mean, the Week.	29.746	38.0	46.1	30.6				65.1											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MARCH 27, 1886, TO APRIL 2, 1886.

McELDERRY, HENRY, major and surgeon. Relieved from further duty in connection with New Orleans Exposition and ordered, on the expiration of his present leave of absence, for duty in Department East, S. O. 71, A. G. O., March 26, 1886.

LORING, LEONARD Y., assistant surgeon. Granted leave of absence for one month, provided that during his absence he furnishes the necessary medical attendance at San Diego Barracks, Cal. S. O. 19, Department of California, March 24, 1886.

HOFF, JNO. VAN R., assistant surgeon. Granted one months' leave of absence. S. O. 29, Department Missouri, March 29, 1886.

BANISTER, J. M., assistant surgeon. Granted leave of absence for one month to commence on or about April 2, 1886. S. O. 63, Department East, March 26, 1886.

APPEL, AARON, H., assistant surgeon. Granted leave of absence for one month. S. O. 66, Department East, March 30, 1886.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING APRIL 3, 1886.

ATLEE, L. W., assistant surgeon. Ordered to duty on United States Revenue Steamer "Vermont."

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE FOR THE WEEK ENDING MARCH 27, 1886.

WYMAN, WALTER, surgeon. Detailed as chairman of Board for physical examination officer Revenue Marine Service, March 27, 1886.

SAWTELLE, H. W., surgeon. Granted leave of absence for thirty days, March 27, 1886.

IRWIN, FAIRFAX, passed assistant surgeon. Granted leave of absence for seven days, March 22, 1886.

AMES, R. P. M., passed assistant surgeon. Detailed as recorder of Board for physical examination officer Revenue-Marine Service, March 27, 1886.

WHITE, J. H., assistant surgeon. Granted leave of absence for three days, March 23, 1886.

SOCIETY NOTICE.

MASSACHUSETTS MEDICAL SOCIETY, SUFFOLK DISTRICT. — The Section for Clinical Medicine, Pathology and Hygiene will meet at the MASSACHUSETTS INSTITUTE OF TECHNOLOGY, on Wednesday, April 14th, at 7.45 o'clock. Papers: Dr. E. C. Haven will exhibit a series of interesting cases, with specimens. Dr. Grace Wolcott will read a case of "Ulcerative Endocarditis," and will exhibit the specimen. Dr. C. F. Withington, of Roxbury, will read a paper on "Military Drill as a means of Physical Training for Boys." A photograph of a singular painting by Watteau, satirizing the universal use of the Anal Syringe, will be exhibited by a member of the Section and presented to the Society. Gen. Hobart Moore, Instructor in Military Drill in the Boston Public Schools, Prof. D. A. Sargent, of the Hemenway Gymnasium, W. C. Collar, Esq., of the Roxbury Latin School, Dr. R. Sturgis, and others have accepted an invitation to be present. Members of the Profession and others interested are cordially invited to attend and take part in the discussion.

F. I. KNIGHT, M.D., *Chairman.*
ALBERT N. BLODGETT, M.D., *Secretary.*

APPOINTMENT.

Dr. Charles M. Green has been appointed Instructor in Obstetrics in Harvard University.

DEATH.

Died in Boston, April 5th, Geo. A. Bethune, M.D., M.M.S.S., aged 74.

BOOKS AND PAMPHLETS RECEIVED.

Permanent Drainage for Ascites. By Augustus Caillé, M.D., New York, Physician to the German Dispensary. (Reprint from the New York Medical Journal, for February 27, 1886.)

The Armstrong Case. By Theo. W. Fisher, M.D., Boston, Mass. (Reprint from the Alienist and Neurologist, January, 1886.)

The Medical Student's Essentials of Physics. By Condit W. Cutler, M.D., Late House-Physician, Bellevue Hospital. New York: J. H. Vail & Co. 1884.

The Production and Prevention of Perineal Lacerations during Labor, with Description of an unrecognized Form. By Henry T. Byford, M.D., Chicago. (Reprinted from the Journal of the American Medical Association, March 6, 1886.)

Comments on Pasteur's Method of Treating Hydrophobia. By Charles W. Dulles, M.D. (Reprint from Medical Record, February 13, 1886.)

A new Clothing Case for the Soldier. By W. Thornton Parker, M.D., of Newport, R.I., Late Surgeon U.S.A. (Reprinted from the Journal of the American Medical Association, March 6, 1886.)

Population and Sex, as finally revised. Census of Massachusetts. 1885.

Practical Hints about Sympathetic Diseases of the Eye. (Reprint from the New York Medical Record, By C. A. Bucklin, M.D., New York.)

Fourteenth Annual Report of the Board of Health of the City of Boston. For the Year 1885. Boston: 1886.

I. Ovarian Abscess and Pyosalpinx. (Reprinted from the Liverpool Medico-Chirurgical Journal, January, 1886.) II. Pelvic Abscess. (Reprinted from the Pacific Medical and Surgical Journal and Western Lancet, February, 1886.) By Francis Imlach, M.D. Edinburgh: Printed by Neill & Co. 1886.

Massachusetts Society for the Prevention of Cruelty to Children. Incorporated 1878. Fifth Annual Report, 1885. Boston: 1886.

Von Ziemssen's Handbook of General Therapeutics. Vol. IV. The Treatment of Disease by Climate. By Dr. Hermann Weber.

General Balneotherapeutics. By Prof. Otto Leichtenstern. New York: William Wood & Co. 1885.

Fifth and Sixth Annual Reports of the Thomas Wilson Sanitarium for Children of Baltimore City. 1885.

Original Articles.

CAUSALITY IN DISEASE, APPLIED TO THE PHENOMENON OF VOMITING IN PREGNANCY.[1]

BY JAMES E. KELLY.

Member of the Royal Irish Academy; Fellow of the Royal College of Surgeons, etc.

GENTLEMEN, your worthy President, Dr. Chadwick, has aroused me from an intellectual lethargy of more than two years, by asking me to elaborate my impromptu remarks relative to the advantages to be derived from the application of physiological principles to the elucidation of one of the most obscure and intractible conditions of disease, namely, vomiting in pregnancy. As a man who has devoted some years of his professional career to physiological teaching and who, in consequence of the custom prevalent in the higher ranks of the medical profession in Great Britain and Ireland, of transferring all obstetrical cases to the care of specialists who limit their practice to that field, was not interested in the phenomenon, except in a casual manner, I consented, perhaps without a due appreciation of the extent and importance of the undertaking. I had but commenced to arrange my ideas, when I discovered that this apparently limited subject was, in reality, one of the most interesting and profound which I have encountered in the domain of biology, embracing the great questions of life, nutrition, cell-proliferation, nervous action, and a host of other subjects for the considerations of which, a few weeks were but as a single moment. I have been additionally hampered by the feeling that my production is but an addendum to the practical paper which was read to you by Dr. Doe, and also, owing to the knowledge that I stand between the Society and a communication which my slight acquaintance with Dr. Cushing convinces me is one of great interest and practical value. While writing this paper I have fully realized the significance of the saying of the celebrated Pascal, when apologising for the length of one of his compositions he said, "I had not time to write it shorter." Any one busily engaged in practice will sympathize with me in my difficulty and condone many of my omissions. It may be said with great apparent justice that I have submitted to this section some ideas which would be more suitable to a biological society, but as no such body exists in Boston, I have no alternative; also, that I have not discriminated with sufficient care between my personal ideas on physiological and other questions and those which are more generally accepted, but, I must confess, I have treated the matter freely and hurriedly, and I give it to you as it came to me, rough-hewn and unpolished.

The form of vomiting which particularly engages our attention to-night is that which takes place during pregnancy. It constitutes one terminal of a causal chain which has its primary link in the gravid uterus or its vicinity, where the energy which produces the phenomenon is developed. In order to limit our field of thought I shall review the causes of vomiting generally, and attempt to classify them. Firstly, vomiting is induced by irritation applied directly to the stomach: *a*, by the effects of irritants introduced into the organ; *b*, by modification of structure as we find in inflammation, simple ulcer, and in carcinoma; *c*, by the disturbance of function occurring in dyspepsia and in the vicarious secretions which take place in uræmia and lithiasis, diseases, by the way, to which the pregnant female is peculiarly liable; *d*, by the mechanical irritation resulting from the encroachment of the gravid uterus and other abdominal tumors. In this class the afferent impressions are conveyed by the pneumogastric nerves to the presiding centres, from whence the efferent impressions are dispatched to the involved muscles. Secondly, vomiting also results from impressions originating in other organs, or from the introduction of certain agents into the circulation, which disturb the control of the vomiting centre in the medulla oblongata, by exciting it to over action, or by diminishing its inhibitory power. These disturbing influences, except when of toxic origin, are grouped under the common term, "reflex action," and the severity of the symptoms depends upon, *a*, the intensity and duration of the disturbing energy; *b*, the susceptibility of the centre to its effects, and *c*, the responsivity and capacity of the involved muscular structures. In this class, vomiting may be due, *a*, to pain or shock; *b*, to those strange "nerve-storms" which originate in some emotional cerebral disturbance; *c*, to excessive action or nutrition in any organ, as in the gravid uterus, and *d*, to irritation, the term being used in a very comprehensive sense, applied to nerve-endings, nerve fibres, or nerve centres, in direct or indirect continuity with the vomiting centre. In many cases of vomiting more than one of these causes contribute to the result, and the recognition of their co-existence must have an important influence upon the success of the treatment.

Vomiting is a complex operation resulting from the complemental action of the muscular coats of the stomach and of the muscles of respiration. These two factors are usually combined, although it is possible for one of them to accomplish the act alone, as is seen in the so-called "cerebral vomiting" and in the well-known experiment of Magendie upon the dog. In that interesting symptom, "cerebral vomiting," the patient, owing to a grave cerebral lesion, is lying unconscious, without any apparent movement other than simply gaping or slowly opening his mouth, he discharges the contents of his stomach. This evacuation is produced by the peristaltic action of the walls of the stomach. In the experiment upon the dog, the stomach is removed and in its place is introduced a bladder containing fluid. When the necessary stimulus is applied, the muscles of respiration contract, the bladder is compressed against the diaphragm by the recti and the broad muscles of the abdomen, and its contents are expelled by their simultaneous contraction. Thus, vomiting, except when caused by the unaided action of the stomach, in common with sighing, yawning, coughing, hiccoughing and retching, is a disturbance of the rythmical or alternate order of the acts of inspiration and expiration. This fact, in connection with the proximity of the presiding nerve centres in the medulla oblongata, should not be forgotten in the consideration of the etiology and the therapeutics of the phenomenon in pregnancy. In that distressing modification, retching, it is probable that owing to the absence of the preparatory dilatation of the cardiac orifice, the force of the respiratory muscles is fruitlessly expended upon the stomach. I am satisfied that the observation of the relative preponderance of the two factors in a case of vomiting would conduce to its

[1] Read before the Suffolk District Medical Society, Section of Obstetrics and Gynæcology, Jan. 20, 1886.

comprehension and to its more efficient treatment. Owing to the comparatively free communication between the uterus and the respiratory muscles, we should anticipate a preponderance of the influence of the respiratory muscles in reflex vomiting and of the muscular walls of the stomach in the irritative form.

In consequence of the interlacement of the numerous branches of the sympathetic and the cerebro-spinal nerves, and of the presence of many ganglia in the abdomen, we find it difficult to resolve the connections between the uterus on one side, and the stomach and the respiratory organs on the other; but we can explain the apparent complexity by dividing them into two classes; first, the nervous communications between the uterus and ovary, where the stimulus may sometimes originate, and the stomach; second, those which connect the same organs with the respiratory muscles. The hypogastric plexus which supplies the pelvic viscera with its nerves is, necessarily, a common link in all the routes. In the first class there are two routes, one, through the sympathetic nerves from the hypogastric plexus to the solar plexus and thence, by its gastric subdivision, to the stomach; the second, from the hypogastric plexus through its spinal roots to the spinal cord and thus to the medulla oblongata, where, in the vomiting centre the afferent impressions are converted into an efferent influence, which is transmitted to the stomach through the pneumogastric nerves. In the second class, by one route we can trace the connection from the hypogastric plexus, by its spinal roots to the spinal cord through which it may be transmitted directly to the respiratory muscles by the intercostal, phrenic and other nerves, and by the second, having reached the cord by the same route, the nervous energy is conveyed to the vomiting centre whence it is transmitted through the cord to the respiratory muscles by the same nerves as in the last instance. The second route in each class is that which is the more familiar. In the diagram shown I have indicated the courses by the use of different colors.

Before proceeding further I shall recall a few general principles, which, if time permitted, I should endeavor to apply to our present subject.

Energy is a general term applied to all forces, such as heat, chemical action, light, sound, electricity, gravitation, etc., which have the power of modifying matter by overcoming resistance, and under certain circumstances, and in the presence of certain forms of matter are convertible each into all or any of the others.

Kinetic energy is the result of molecular or molar change, produced by the action of another force, which disturbs the condition of rest or stability, termed equilibrium.

A special energy requires for its manifestation a special modification of matter.

Vital energy is only manifested in the presence of protoplasm, and it is the product of the two factors, life and protoplasm.

All functional and constructive vital energies, are the result of molecular change, which disturbs the equilibrium of the energy associated with protoplasm.

Vital energy manifests itself under various modifications, as nutrition, vital heat, nervous energy, muscular action, etc., and it is correlative with the various physical energies.

All vital energy as well as organic matter must be traced from its source to its destination before the enigma of Life is solved.

Owing to the specialization of function, nutrition and reproduction, the essential energies in the lower conditions of life, are, in the animal kingdom, subdivided into various forms which are reciprocally productive of one another.

Nutrition is the proximate result of vital energy, and all vital phenomena are its consequences.

All forms of vital energy, but especially nervous energy, are, like light, modified by diffusion, intensification, dispersion, reflection, interception, and conversion.

According to a principle analogous to that of the correlation of forces, it is probable that similar influences govern the vital and the physical energies, a speculation which our observation corroborates in many instances.

Death, in the organic world, is the condition of absolute equilibrium of the vital energies, associated with the suspension of nutrition.

Health is the condition in which the sum of the vital energies is limited to certain "normal" bounds, and the various sub-energies bear to each other certain "normal" proportions. They are in equilibrium.

Disease is that condition which results from the transgression of these limits, in either direction, by the sum of the vital energy, or by one or more of its forms; also by the disturbance of the relative proportions existing, within those limits, between the several manifestations of vital energy.

Local disease is an approximate term, indicating a comparatively limited disturbance, which has only local manifestations.

Owing to the great length of this paper and to its suggestive nature, I have endeavored to combine many of the physiological considerations with the therapeutics of the subject, a method which prevents me from doing justice to my topic or to myself. The therapeutical indications have the same basis as in all other applications of "rational" treatment. We must endeavor, first, to modify the disturbance of structure or function which originated the abnormal state of energy in the uterus; second, to transform or otherwise modify, the resulting nervous energy; third, to divert or obstruct it in the channel which conducts it to the abnormally acting structures, either in the efferent nerves which convey it to the nerve-centres, in the nerve-centres themselves, or in the efferent nerves leading to the structures; fourth, to nullify its influence upon these structures, namely, the coats of the stomach, and the muscles of respiration. In the selection of the method of treatment, the practitioner is guided by his knowledge, his judgment and his conclusions.

I shall now speak of the greater frequency of this grave condition in the primiparæ, and I should attempt to explain it by one or more of the following considerations: First, displacements of the uterus are more under observation and control in the multiparæ; second, owing to previous pregnancies, the ligaments of the uterus and its walls, if not modified by inflammation, are in a more favorable condition for the essential changes; third, in the primiparæ, the adaptability to maternity, and the power of resisting its ills, are tested, with the result of the elimination of many of the aspiring candidates for that high honor; fourth, it is possible that the susceptibility of the various nervous

centres may become blunted by the test to which they have been submitted in previous pregnancies, or by the still greater strain of parturition.

Almost invariably, nervous energy in the female is in a comparatively unstable condition, and during gestation it is still more liable to violent disturbances, as we often witness in eclampsia, mania, hysteria, and many other neuroses. This is easily understood when we recall the immense amount of energy convertible into the nervous form, which must be developed in the uterus during the construction, within a comparatively limited period, of a machine combining a greater complexity of structure and a greater variety of function than the collective wisdom of the human mind can conceive. We also observe, in pregnant females, an exaltation of the functions generally, as we should expect in conjunction with the adoption of the responsibility and the support of another individual.

We can have little conception of the influences which effect a nervous impression from its origin until it reaches its destination, if it should pass through one or more ganglia. The central nervous system is a combination of ganglia; a ganglion contains many multipolar cells, which form interminable communications with one another, and with innumerable nerve-cells and fibres external to the ganglion. An impression arriving at the simplest ganglion is liable to have its power diminished to a homœopathic degree by subdivision, or, by combining with other nervous currents which reach the ganglion from other sources, it may proceed on its course, intensified a thousand-fold. Here, it would be permissible to speculate upon the influence which induces the current to adopt a special avenue of exit, for on it is based Education, in its highest and in its lowest relations. Its application to our present theme is shown by the remarks of your worthy President and others, who spoke of administering small and frequent quantities of food, of the chewing of "spruce-gum," "pop-corn," and other incentitives to frequent deglutition. This would indicate the training of the nerve-centres, by repeated impressions, to adopt a special form of nervous action, resulting in a suspension of the perverted condition which produced the emesis. Another application of the principle of education is afforded us by the observations of some of the other speakers, who mentioned cases in which vomiting continued after abortion had been produced. Assuming the correctness of the diagnosis of the cause of the persistency, I am at a loss to explain the occurrence, except as the result of "habit," which is synonymous with the modification of the structure of the presiding centre, resulting, most probably, from the increase of the conductivity or the size of the nerve-fibres conveying the efferent impressions to the stomach. This speculation is based upon the general principles that increase of function, *cæteris paribus*, is associated with increase of structure, and that energy travels in the direction of the least resistance. As we do not recognize the existence of effect without cause, this is a subject which I should gladly develop if a suitable opportunity should offer itself. While we remember the educational advantage derivable from increased salivation, we must not forget that the saliva, being an alkaline fluid, may have a sedative action upon the irritated mucous membrane. Although we can hardly expect any of this influence to be due to the small quantity of Sulphocyanide of Potassium, it is interesting to remember its presence in the saliva, and perhaps, to ask ourselves, if it be in the power of the biologist to teach us how to increase its secretion, a speculation which may not be fruitless in other fields. As a gentleman alluded to the frequent coincidence of salivation with vomiting, I wish to recall the close relation of the salivary and the vomiting centres in the medulla oblongata, which association may afford a clue to many other complex phenomena. Your President also mentioned some cases in which the patients derived great advantage from the habit of taking nourishment immediately before composing themselves to sleep, a valuable suggestion, which is sustained by two important considerations. One is the fact that in over-action of the nervous centres, food in the stomach, by exciting the process of digestion, and converting the nervous into the vito-chemical energy, acts as a sedative; and the other is based upon the well-known principle, which is hardly confined to medical subjects, that weakness and irritability are closely associated, and consequently, any measure having a tendency to relieve the former should ameliorate the latter.

Although we cannot expect to interfere, to any great extent, with the normal progress of gestation, the consideration of a few of its most salient points will be of interest, and perhaps of advantage. In the development of the uterine walls, we must consider two factors of especial importance to this question. One is the rapid cell-proliferation which takes place in all the tissues; the other is the modification of the form of the cavity. I shall again remind you of the immense volume of energy which is generated by cell-nutrition and reproduction. They also produce tension upon the nerve-endings and the fibres, if any disproportion should exist between the expansion and the proliferation. If we were to attempt any interference with the natural process of uterine development, we should look to those remedies which are useful in counteracting excessive development in disease. Bloodletting stands at the head of the list, which is very limited, containing only Lead, Mercury, Potassium, and a few minor drugs. Ipecacuanha may enhance its high standing by proving itself useful in this conjunction. One other medicine I should wish to mention, which appears to possess a marked influence upon uterine action. I speak of Viburnum Prunifolium, and I should be curious to learn if its sedative effects were of any benefit in uterine vomiting. The union of the cervical with the general cavity of the uterus, and their remarkable expansion subsequently, can only occur at the expense of much traction and modelling pressure. In the fact that the uterus resembles the other hollow organs in the special development of the nerves which guard its outlet, we may have a clue to the vomiting and to the beneficial results of dilatation of the os uteri, a procedure which is held in high estimation. Its action is two-fold: first, forcible and sudden removal of the tension which irritated the nerves and their endings; and second, the application of the well-known principle of "nerve stretching" to the involved fibres. I may here remark that an apparatus which would apply instantaneous and general dilatation to the orifice, should be more efficacious than that method which one of the gentleman described at our last meeting. He divaricated the blades of a forceps which he introduced within the os, one and a half inches in one direction, and then he repeated the manœuvre, transversely to the same extent. It is hardly necessary to say that the second step of the operation did not in-

crease the size of the os uteri, any more than it would effect any other circular aperture, which would yield to an equal extent in every direction.

If we cannot prevent the development of the uterine energy, we may cast about for some method of diverting it from the hypogastric plexus, and here we are reminded of the treatment which is directed to the cervix and to the os uteri. We occasionally hear of benefit being derived from the application of Iodine and Nitrate of Silver, and I should attempt to explain their action by quoting a principle from that prince among men, the late James Syme, of Edinburgh: "Pain, hæmorrhage, inflammation, increased nutrition, and excited secretion, take the place of one another, so that they may be regarded as equivalents of action." Following up this clue, and recalling the theory of nervous energy, a wider field for well-founded experiment would develop itself. By the application of the actual or the potential cautery, we should expect to produce more marked and enduring results. The former is much facilitated by that manageable little instrument, Paquelin's cautery, while Nitric Acid, Potassa Fusa, and the Ethylate of Sodium, afford ready methods of applying the latter. Acupuncture, by its efficacy, induces us to employ it in many cases, although we can hardly hazard a speculation on its mode of action. In whatever manner it modifies energy, which it appears to do by producing a sedative influence, it is possible that its application to the cervix of the gravid uterus may be associated with some benefit. Another expedient may produce a similar influence in some cases of vomiting, as in other forms of violent nervous perturbation. I allude to ovarian pressure, which is so valuable in hystero-epilepsy. It may be applied by a truss or other apparatus externally, or by a combination of external and vaginal pressure.

Assuming that we cannot modify the uterine energy, we may consider if we can intercept it in its passage to the nerve centres, or induce it to adopt another goal. We find that the resources of therapeutics are limited in the number of the paralyzers and depressants of the afferent nerve fibres, but when we recognize among them such potent medicine as Aconite, Physostigma, and Nitrite of Amyl, we cannot allow this indication to pass unnoticed. As to the application of the principle of counter irritation, we should endeavor to discover if any portions of the integment have special connection — "linked spots" —with the uterus or the involved centres, at which this expedient may be more effectively applied either in the form of Corrigan's button, or as an issue, rather than as a simple blister.

Regarding secretory energy as a correlative of the other vital energies, we should expect to find it as a frequent and obvious result of the uterine influences, as in salivation and excessive secretion of the gastric juice or mucus. It would be interesting to observe if we could utilize this suggestion by diverting the surplus energy to the elaboration of some secretions which would promote its diffusion. This line of thought naturally reminds us of the secretory action of the skin, an old and well-established avenue for the elimination of heat and other forms of energy. In Pilocarpine we have a drug of remarkable efficacy, and we possess many other medicines which may combine this influence with other advantages. Another basis for this suggestion is the proximity of the presiding sweat centre, to the vomiting, respiratory, and other important centres in the medulla oblongata. In this conjunction it is convenient to consider the influence exerted by the morbid displacements and the normal elevation of the uterus. We must recall for an instant the observation of gentlemen of ability and opportunity, such as Graily Hewitt, who noted that the majority of the displacements, associated with vomiting, were antiversions. This is as we should expect when we remember that the nervous supply of the uterus reaches it from below and behind, and therefore, in this form of displacement, the fibres would be most liable to straining, tension and irritation. Most probably in cases of retroversion the irritation applied to the nerve fibres would be by pressure between the uterus and the pelvis, or some other viscus, such as an impacted rectum. For such cases the conditions would suggest the rational treatment, by replacement or by the evacuation of the distended viscera. A very interesting question arises in those cases which result from the abnormal resistance to the essential elevation of the uterus. It is possible that benefit may be derived from the application of some power within the vagina which with a justifiable amount of force and rapidity, would elevate the uterus *en masse*, and thus liberate the nerves from the resisting ligaments, and at the same time exert upon them the sedative influence of nerve stretching. A suitable apparatus might be devised, by modifying that instrument known as the "cup pessary" and adding to it a handle. Here I am reminded that the application of heat and cold according to the multiple modes known to the "craft," by bath, bag, or douche, may be beneficial. It is possible that heat in the form of a bath may diffuse, direct or conduct from the body the energy otherwise concentrated on the stomach. This may be a partial explanation of its well-established sedative influence. In massage we have another mode of producing a somewhat similar effect. By the stimulation which it applies to all the structures of the body as well as by its manifest influence upon the general nutrition, it may diffuse the superabundant vital energy. This is a remedy which admits of many applications. The utility of cold in many forms of disease needs no commendation; but the cold bath or a cold douche may exert two influences worthy of being specially canvassed. One is by the removal of heat and the consequent conversion of the nervous energy to supply the place of the abstracted calorific energy; again the well-known influence which cold exerts over development may be utilized. I have not alluded to the effect produced upon the arterioles because I am inclined to consider that our pathologists have been running that one intermediate function to death to the disadvantage of many investigations which appear to possess much interest and importance.

When the nervous current reaches the great centres, such as the spinal cord and medulla oblongata, according to the present knowledge which we possess, we must concentrate our forces upon attempting to destroy their conductivity and their power of reflecting the nervous impressions. Whether some philosopher shall ever discover the manner in which the various drugs act upon the nervous centres I cannot forecast, but I am satisfied that any exhaustive mind, which applies itself to this subject cannot be content with the explanation which the biologists offer us. According to our light we may divide the drugs from which we may expect aid into the depressors and paralyzers of the medulla and the spinal cord. Among those medicines

from which we would anticipate the most potent influence upon the vomiting centre in the medulla, are Veratrum Viride, Aconite, the Chlorals, Nitrite of Amyl, and a host of others; while among those which exert the most distinct influence on the cord, in addition to some of the last mentioned, are Physostigma, Hyoscyamia, Antimony, and Conium. By the action of those drugs the nervous centres are deprived of the power of transmitting to the engaged muscles the nervous impressions which they receive from the uterus, and, according as we deem the cord or the centre in the medulla the more active in the development of vomiting, so should we select the more appropriate remedy. If the former should be the case, Physostigma is the most promising agent, and if the latter, Veratrum Viride or its principle, Veratria. I may mention that upon physiological principles the much used and abused remedy, "Atropia and morphia," administered hypodermically should be more closely studied, as the former tetanizes the cord, increases reflex action and stimulates the respiratory centre, while the morphia to a lesser extent produces similar effects in some of its manifestations. Nux Vomica may be admissable in some cases owing to its acting as a stimulator upon all parts of the spinal cord by which effect it may diffuse the energy which otherwise would be concentrated on the centres of vomiting and respiration. I shall allude to another medicine here which may be found useful owing to the remarkable sedative effect it manifests in dyspnœa, an influence which may extend from that of respiration to the adjacent vomiting centre, in the floor of the fourth ventricle; I speak of Quebracho.

The muscles of respiration afford us the next field for combatting the malign influence developed in the uterus and transmitted to those powerful agents. This object can be effected in one of two ways, either by paralyzing the muscles or by producing a condition which will prevent the compression of the stomach. In Curara, that powerful drug of such obscure origin, so potent in hydrophobia and in tetanus, and which is used by vivisectionists, when desirous of producing absolute immobility without interfering with the other functions of the nervous system, we find an agent imperatively demanding a full and fair trial in a disease which frequently submits to us nothing better than the selection of the lesser of two evils, the death of the mother or the destruction of the offspring. The other expedient, by which the stomach is protected from the pressure of the respiratory muscles, is tracheotomy, by which the fixation of the diaphragm is rendered impossible, and consequently the contraction of the abdominal muscles is almost nullified, the stomach being evacuated only by the action of its own walls.

Finally if the dread alternative, abortion, ever should be considered necessary, it would be well if it were performed with gentleness, safety, and certainty. It would appear more difficult to destroy the ovum than one who has a purely theoretical knowledge of the subject could imagine, when we have one experienced gentleman mentioning a case in which all his efforts were ineffectual, and another, equally accomplished, telling of having discovered that he had passed Simpson's sound ten inches in a direction contrary to that of the uterus, which was antiflexed. It occurs to me that Electricity either in the form of the interrupted or the continuous current, as the indications would suggest the expulsion or the destruction of the fœtus, applied by means of a supra-pubic and an intra-uterine electrode, would have enabled the gentlemen to complete this unsavory operation without any additionally disagreeable *contretemps*.

In conclusion I would ask my audience to remember the object of this paper. It is to indicate to what extent physiology is capable of adding to the resources of the practitioner, by giving him a comprehensive view of obscure diseases, and enabling him rationally to select the most suitable among the recognized remedies, and to bring to the alleviation of human misery other resources of which he had not previously thought in conjunction with the particular condition upon which he is desirous of concentrating his knowledge and his intellect. To borrow the expression of a distinguished Irish philosopher, I would indicate how, by "*reasoning alone*, which merely unfolds as it were, and develops, what was, in a manner, wrapped up and implied in our previous knowledge, but which we are often as unaware of, to all practical purposes, till brought before us, as if it had been wholly beyond our reach," we may increase the efficiency and the dignity of medicine. I have given rein to speculation and transgressed the crudely practical limits of the question, because I wished to maintain the suggestive nature of the paper. Were I dealing with the subject from the responsible standpoint of the practitioner, I should have weighed every word, and investigated the efficacy and the safety of every new application of every expedient which I have suggested, but in the primary stages of "truth seeking" we are allowed a greater liberty. I shall have attained my object if I induce some of my audience to apply that unerring touchstone, thought — the real philosopher's stone, which turns all things to gold — to the question before us, and I shall be gratified still more if my views are combated, for "Truth like a torch, the more it's shook it shines."

SOME OF THE LESS COMMON FORMS OF MASTOID DISEASE.

BY J. ORNE GREEN, M.D.

MASTOID osteitis, as it has been well called by Politzer, because we may get any of the conditions which accompany inflammation of bone, assumes a variety of external appearances and symptoms most of which are well understood and readily diagnosticated. The most common form is due to extension of the inflammation which exists within the mastoid cells, through the external cortex to the outside of the bone, with resulting external periostitis and subperiosteal abscess with or without a carious fistula through the bone. This expresses itself by tenderness of the bone on pressure, œdema of the soft structures and finally fluctuation. In these cases the external appearances œdema, swelling and fluctuation are found on the flat external surface of the mastoid process and an incision parallel with and near the insertion of the auricle when carried through the periosteum will evacuate the pus, if the case has gone on to full suppuration, or, if it has not yet proceeded so far, a slight raising of the periosteum to one side or the other will usually expose the spot through which the inflammation has come from the inside, a small spot of the bone being inflamed, or softened by decalcification, or perhaps distinctly carious. The point to which I would direct attention in

these cases is the seat of the suppuration which occurs beneath the periosteum opposite the point of inflamed bone and on the external face of the mastoid process.

The following two cases are, I believe, but varieties so far as I know, however, hitherto undescribed, of this form of mastoid inflammation extending through the external cortex: they offer certain peculiarities which are of some importance, both in diagnosis and treatment. They are the only two cases I have ever seen.

A maid-servant, aged twenty-four, during an acute coryza was seized with severe pain in one ear which developed into a severe suppurative inflammation of the tympanum and mastoid. I saw her first after the mastoid had been inflamed several days and found the usual symptoms of external periostitis, swelling and marked œdema, in the usual spot over the mastoid. Her removal to the City Hospital was advised, and there in spite of antiphlogistic treatment suppuration occurred in a few days. The external appearances, however, varied from the usual form in that, although at first the swelling and œdema were over the flat external surface of the mastoid as is common, although the inflammation progressed, this swelling gradually subsided over the mastoid, but appeared downwards and backwards from the tip of the bone, and finally distinct fluctuation was felt close to, but downwards and backwards from the tip of the mastoid. Under ether an incision was made through the periosteum, starting a little above the lower edge of the bone, but pus was only reached after the knife had passed over the edge of the bone through the posterior part of the tendon of the sterno-mastoid muscle. About a drachm of pus was evacuated, and examination with a probe showed the posterior and lower aspect of the mastoid denuded and the cavity of the abscess was just beneath this spot. The wound was dressed antiseptically, no further suppurative or caries resulted, the inflammation both of mastoid and tympanum receded rapidly, and the recovery was complete.

The second case was that of a Chinese laundry-man, whose history from the lack of an interpreter could only be obtained from the objective symptoms. Entering the City Hospital for an abscess over the ribs he developed a suppurative inflammation of the right tympanum and mastoid, followed by the usual œdema and swelling over the external surface. The swelling had existed for some time when I first saw him, but started in the usual spot over the external surface just behind the auricle and extended downwards for some two inches beneath the point of the bone and backwards for another three inches. There was the characteristic great œdema over the bone, but the rest of the swelling was firm and hard but with ill-defined edges. Although an immediate incision was advised, some days were lost in obtaining his consent. Under ether examination now showed that the œdema over the flat surface had much diminished, and deep palpation failed to find any fluctuation there. The rest of the swelling remained as before except that by tolerably deep palpation distinct fluctuation was felt at the same spot as in the previous case, just behind and below the tip of the mastoid.

Notwithstanding the diminution of the swelling over the bone, I made the customary incision parallel with the auricle through the periosteum without finding pus; a cross incision was then made downwards and backwards and pus was only reached after the knife had passed beneath the edge of the bone into the space behind the steno-mastoid tendon when a cavity, shallow but some two inches in circumference perpendicularly was opened. A bent probe showed, as in the previous case, the posterior lower surface of the mastoid tip denuded but not softened. The periosteum over the external surface was turned back and a small spot of distinctly inflamed bone not yet softened, about an eighth of an inch across, was exposed on the level of the meatus. A counter-opening was made in the lowest point of the abscess-cavity some two inches down the neck and a drainage-tube passed from this up through the other opening. Antiseptic syringing was used twice a day both for the wound and the tympanum. The improvement was rapid; at the end of a week the drainage-tube was removed; in ten days the otorrhœa had ceased and the perforated drum-membrane healed. The induration of the tissues is now nearly gone. The hearing, however, is lost, apparently from the involvement of the labyrinth.

In both of the cases there was undoubted inflammation of the mastoid cells accompanying purulent inflammation of the tympanum; in the Chinaman the spot of inflamed bone was an absolute demonstration of the extension of the inflammation through the bone: in both of the cases there was not only the extreme tenderness of the bone to pressure, but also the characteristic œdema of the upper and posterior wall of the meatus; and the fact that the pus in both cases lay against the bone makes it almost certain that the suppuration was due to the mastoid inflammation.

The peculiar characteristics of both cases were (1) the swelling and œdema over the whole external surface of the bone in the earlier stages of the inflammation, which however, rather diminished than increased as suppuration occurred; (2) the seat of suppuration, not beneath the periosteum of the external surface but in the neck below the bone and beneath the expanded tendon of the steno-mastoid muscle, and undoubtedly beneath the periosteum of the posterior lower aspect of the tip of the mastoid, as shown by the bare bone at that spot.

The obstacles to superficial fluctuation and spontaneous opening of the abscess are sufficiently explained by the tendon of the sterno-mastoid muscle which is attached not only to the mastoid but spreads out, fan-shaped, and is attached along the superior curved line of the skull for a considerable distance backwards from the mastoid. The confinement of the suppuration between this tendon and that of the splenius capitis muscle sufficiently explains the shallow character of the abscess inwards and its large perpendicular circumference, due to the extension of the cavity downwards, as seen in the Chinaman.

The extension of the inflammation from within the mastoid cells to this point externally is interesting; the firm attachment of the sterno-mastoid and splenius capitis muscles would serve to strengthen the bone, and theoretically we should not look for a beginning periostitis here. There is, however, one form of development of the mastoid which may, I think, explain these cases. The mastoid cells are developed from the diploë between the two tables of the skull at this point, which tables separate more and more, and the small-celled diplöetic spaces are developed into the large pneumatic mastoid cells. It is well established that the development of the mastoid varies very much; of two hundred and fifty adult mastoid bones examined by Zucherkandt, only 36.8 per cent. showed pneumatic

cells throughout, while 43.2 per cent. were partly pneumatic and partly diplöetic, and 20 per cent. were either entirely diplöetic or composed of thickened osseous tissue and wholly destitute of pneumatic spaces. The peculiarity to which I would direct attention is, that not only may we have a sub-development as shown by the above statistics, but in very exceptional cases, there may be a hyperdevelopment, so to speak, in which the pneumatic spaces not only fill the mastoid bone but the two tables of the skull are separated farther back than the true normal mastoid process and pneumatic cells, communicating with and forming part of the true mastoid cells, are formed for some distance backward from their usual position, so that the mastoid cavity is not limited by the process itself but extends backwards between the two tables of the skull for a distance sometimes of half an inch or more. In the few cases of this hyperdevelopment where I have dissected, the pneumatic spaces were large, very perfect, and the external cortex thin. The natural result of this condition is that just behind the mastoid process, instead of the usual firm, quite solid bone we have a thin cortex merely, through which the inflammation from within could readily extend, and it seems probable theoretically, for of the fact I have had no opportunity to satisfy myself, that with this hyperdevelopment the posterior aspect of the mastoid would be altered and possibly space left between the insertion of the sterno-mastoid and splenius capitis muscles which does not usually exist. This latter, however, is not necessary, for the thin external cortex of such cases would alone afford a sufficiently favorable opportunity for the extension of the inflammation.

The practical lesson to be derived from the cases is the necessity of making the incision farther back than is usual, and also of going below the edge of the bone, entirely through the tendon of the sterno-mastoid muscle; and in case gravity of the pus has made a large cavity of inserting a drainage-tube throughout the whole length of the abscess to ensure perfect drainage and prevent further burrowing, a considerable risk at any time, and greatly increased if the bone should have become carious, which, however, had not occurred in my cases.

The diagnosis of this unusual condition of the bone cannot be made out by any external examination, and the locating of the suppuration in the spot I have spoken of, cannot be anticipated beforehand; in fact, it is only to be recognized after it is fully established, when quite deep palpation will reveal fluctuation just behind the mastoid and below the bone.

The differential diagnosis between this form of mastoid inflammation and that which occurs when the inflammation extends from the mastoid-cells through the floor of the mastoid into the digastric groove is not always so simple as it might seem. In the Chinaman the induration of the tissues of the neck was very marked for two inches or more below the bone, and my first impression was that I was dealing with a penetration downwards into the digastric groove. As the case progressed, while we were waiting the services of an interpreter, the absence of the characteristic cellulitis with its hard board-like feeling and clearly cut edges, the non-extension of the inflammation forwards or backwards notwithstanding the interval of ten days, but especially the presence of inflammation on the external surface of the mastoid which is not seen with the digastric variety, and finally the development of fluctuation at the spot indicated, made it evident that we had an unusual form of external rather than the very dangerus digastric inflammation.

The serious character of extension of inflammation through the floor of the mastoid into the digastric groove will be appreciated when it is remembered that the suppuration then occurs beneath the deeper fascia of the neck in the immediate vicinity of many important vessels along which it burrows. The external symptoms are first, swelling and tenderness beneath the tip of the mastoid, then a gradual extension of the inflammation down the sterno-mastoid muscle, then into the fossa retro-maxillaris, then along the larger blood-vessels often running downwards over the whole side of the neck to beneath the clavicle or backwards to the median line. The swelling usually assumes the character of a cellulitis, being dense, hard, usually with sharply defined edges, and protruding but little. Distinct fluctuation is rarely discovered except in the later stages of the disease, and is then found only in circumscribed spots, usually near the median line below the edge of the skull or in the neck. Incisions rarely meet pus except by dissections into the deepest parts of the neck, and I have known such made by excellent surgeons without evacuation of any matter, and once have known very serious hæmorrhage from wounding a deep artery while trying to reach pus beneath the fascia near the median line below the occiput.

The several cases of this form of the disease which I have seen, have resulted fatally, as they often do, either from exhaustion, the burrowing of pus into the thorax, embolic infarcts, or cases of the cervical vertebræ. Bezold's experiments in injecting colored gelatine with force into the digastric groove after boring through the mastoid showed the same series of phenomena which had been observed clinically. The gelatine passed along the belly of the digastric muscle under the parotid and along the sheath of the occipital artery to the carotid and backwards along the same artery, and was found to lie in three separate strata between the trapezius and splenius, between the splenius and complexus magnus and between the complexus and the short deeper muscles of the neck running down even to the second dorsal vertebræ.

One case of this digastric variety since then, seen with Dr. R. M. Hodges, is of interest, both from the recovery and from the method of operating. It was quite typical in its appearances, purulent inflammation of the tympanum, tender mastoid, swelling just below the mastoid tip extending into a hard cellulitis down the neck for a distance of eight centimetres and no swelling over the external surface of the mastoid. Dr. Hodges incised the periosteum over the mastoid down to its tip, and then followed beneath and after fairly getting round the mastoid-tip beneath the periosteum, evacuated a small amount of pus. Examination showed the whole floor of the mastoid carious, and it was removed with a curette over a space at least a centimetre across. This patient made a tedious but good recovery, and is the only case of full recovery from this form of the disease I have ever seen.

—The death of a physician from hydrophobia is reported from Baltimore. The unfortunate gentleman, Dr. Brinton H. Warner, was bitten on Christmas day by an unknown dog which he had befriended in the street.

A CASE OF SALPINGITIS, WITH SEVERE SYMPTOMS. REMOVAL OF TUBES AND OVARIES. RECOVERY.

BY J. W. ELLIOT, M.D.

In March, 1884, Dr. Worcester, of Waltham, brought Miss A. to me for treatment. She was a very respectable dressmaker, thirty-five years old, and unmarried. She was tall and strongly built, but with a thin face, which bore signs of great suffering. In answer to my questions, she gave the following history: Her father, mother, brother, and sister, all died of phthisis. She had pneumonia eight years ago. She began to be an invalid fifteen years ago. Her trouble was supposed to have arisen from taking cold during menstruation. For the first few years her symptoms were somewhat indefinite; but ten years ago she began to suffer from a periodic pain in the left side, which has continued to the present time, with the exception of a short period of immunity a few years ago. Her menstruation was somewhat irregular and occasionally very painful, but never profuse. She also complained of leucorrhœa. Defæcation was always painful and often caused faintness. She had had several attacks of "inflammation."

All her other pains, however, were slight compared with the periodic pain in her side. This was the one symptom which disabled her and brought her to the doctors. It was a sharp, cutting pain, beginning in the left lower abdomen, shooting through the rectum, and running down the left leg. It was occasionally referred to the hip or pubic bones. It came on every month, five or ten days after menstruation, and lasted several days, sometimes a week or more. She described these attacks as something frightful, and at times almost unendurable. She had been under the care of several doctors, but none of them had been able to relieve this pain, except by morphia, of which she had taken as much as three grains a day. "One of the doctors told her that her sufferings were worse than a confinement." After an attack was over, she began to work again in a few days, and got about very well until the next attack. In 1883, she was much worse than usual. Her bowels were very tender and painful to move, and for a time during the month of July, the attacks of pain occurred every day, lasting six and eight hours. She felt that her general health was giving way, and that she must soon give up work altogether. She seemed to be a plucky woman, and presented none of those nervous or hysterical symptoms so common among suffering women.

On examination, I found the uterus enlarged, tender, retroverted, and firmly bound down by adhesions. Both ovaries were enlarged, tender, and prolapsed. The uterus, ovaries, and tubes, seemed to be matted together. There was evidently a chronic vaginitis, endometritis, and pelvic peritonitis. Treatment was immediately begun to soften the adhesions and to raise the uterus. This was done by "packing the vagina," as described to this Society in a previous article. In about two months we succeeded in forcing the uterus and ovaries well forward, and holding them in place with a soft rubber pessary. The tenderness about the uterus almost entirely disappeared, and the periodic pain was so much less severe that no morphia was given for several months. We all felt much encouraged, and the patient returned to Dr. Worcester's care. Six months later, November 15th, she appeared at my office much discouraged, stating that the pain was as bad as ever, and that she had been obliged to take morphia again. Dr. Worcester informed me also that he had found it necessary to give it in one-half grain doses. At that time, I found the uterus held in good position by the pessary. The left ovary was enlarged, tender, and adherent near the fundus uteri.

Dr. Worcester and I then soon agreed that the removal of the ovaries and tubes was almost her only chance of relief; but as there had been some improvement immediately after replacing the uterus, I was anxious that she should wait a full year from that time before doing the operation. I therefore advised the local use of electricity in the hope of quieting the pain. In this hope I was disappointed: for in the next six months she grew steadily worse, and finally, during the last two months before the operation, the pain previously periodic became almost constant, except during menstruation. Dr. Worcester removed the pessary in the hope that any change might do some good. This, however, only made matters worse, and it was therefore replaced.

The patient readily consented to the operation, saying that she would rather die than live as she was. The operation was done on April 24th, 1885, at Waltham, where Dr. Worcester had arranged everything for me in the most perfect manner. Dr. Johnson assisted me. No spray was used, but everything was made as clean as possible. The pessary was left in place, with the idea of holding the uterus forward, so that the tubes and ovaries could be more easily reached. An opening in the abdomen was made, large enough to admit two fingers, through which both ovaries and tubes were removed. The left ovary was found so firmly adherent that it could not be entirely removed. The Fallopian tubes were much enlarged and adherent. The healthy tube is easily recognized by its cord-like feel. These tubes felt even softer than an intestine, and were, on this account, with difficulty found. They were ligatured close to the uterus and removed. The posterior surface of the uterus had not the usual smooth feel of a peritoneal surface, but was covered with rough, uneven patches of various size. This roughness was, without doubt, the remains of the adhesions which had been torn away a year previous, while packing the vagina to raise the uterus. While operating, I became aware of the fact that the broad ligaments were more lax than usual. It then occurred to me that by shortening these ligaments a little, I might prevent the uterus from retroverting again. Accordingly as I applied the ligatures, I drew up portions of the lax peritoneum and included them. The abdomen was closed and the patient put to bed. The pessary was then carefully removed.

On examining the organs removed, the ovaries were slightly enlarged, hard, and covered with the remains of the adhesions by which they were fixed. The Fallopian tubes were deep-red, very soft, enlarged (about three and one-half inches long and as large as a little finger), and twisted upon themselves in such a manner as to form alternately dilated and narrowed portions. They contained a thick, purulent secretion, which could be squeezed out of the abdominal opening. The fimbriæ were somewhat swollen, and the peritoneal surface was covered with the ragged ends of the torn adhesions and small, deeply-injected bloodvessels. The mucous membrane was pale red, thick, soft, and raised into flabby folds.

Under Dr. Worcester's careful management, her

convalescence was uninterrupted, the highest temperature being 99.4°. The wound healed by first intention. The patient was up and about in three weeks, having gained in flesh and general appearance. In August she was sent to Mt. Desert, and there gained sixteen pounds in seven weeks, since which time she has worked hard constantly from 7.30 in the morning to 10 o'clock at night. She has never had the old periodic pain since the operation, and considers herself perfectly cured.

Menstruation did not occur for three months after the operation, but for the last five months it has occurred regularly every month. The quantity of the flow has, however, gradually diminished, and there was some pain with the last flow. There has been almost no white discharge since the operation. I have examined the patient twice since the operation, the last time in January, 1886, nine months after the operation. On both occasions, I found that the uterus had remained well forward in its normal position, just as I had left it at the operation, no pessary or treatment of any kind having been necessary.

I suppose the disease must have begun as a vaginitis, which became an endometritis and salpingitis, which caused a pelvic peritonitis and retroversion with adhesions. There is no history of gonorrhœal infection.

The well-marked symptom of a severe, periodic, intramenstrual pain in connection with salpingitis is of interest, and seemed worthy of note, for the symptoms of salpingitis are not yet well established. Where the abdominal end of the tube is closed and the pus is retained, a tumor can be felt, and the diagnosis is comparatively easy. In this case, the tubes were open at both ends, and were probably discharging their contents both ways, for the vaginal discharge stopped immediately after the operation. In this sort of salpingitis, the tubes were so soft that it was absolutely impossible to feel them per vagina.

Some cases of salpingitis undoubtedly recover without operation. I am sure I have seen cases recover. Most of them, however, go on from bad to worse as in this case.

To cure a retroversion by shortening the broad ligaments was entirely a new idea to me, but it was perfectly successful. Since then, however, it has happened to me to have an almost completely prolapsed uterus, held in good position by inflammatory adhesions, following ovariotomy. In this last case, I was careful to leave the uterus antiverted on closing the abdomen.

Reports of Societies.

SUFFOLK DISTRICT MEDICAL SOCIETY. SECTION OF OBSTETRICS AND GYNÆCOLOGY.

ROBERT B. DIXON, M.D., SECRETARY.

JANUARY 20, 1886, DR. JAMES R. CHADWICK in the Chair.

DR. J. E. KELLY read a paper entitled

CAUSALITY IN DISEASE, APPLIED TO THE PHENOMENA OF VOMITING IN PREGNANCY.[1]

DR. PRINCE, in opening the discussion, referred to the treatment of vomiting of pregnancy by a method advocated by Dr Alexander Harkin of Belfast. Dr. Harkin had published two remarkable papers in the *Lancet*, in which he maintained as a result of his observations on a large number of healthy and sick persons, that there is a hyperæsthetic spot over the 4th or 5th or both dorsal vertebræ as the normal condition of every person. Dr. Harkin had effected some remarkable cures by blistering over this spot. Dr. Prince read extracts from Dr. Harkin's papers. Among the cures effected, some of which sounded like tales from the Arabian Nights, were cases of vomiting of pregnancy. This he had completely controlled by blistering. The speaker then said he had been lead by Dr. Harkin's statements to make some observations himself in this direction, and gave a summary of the results he had obtained, which will be published in another communication to the JOURNAL. His observations had only partially confirmed the above statements. One case of vomiting he had controlled by a counterirritant over the 4th and 5th dorsal vertebræ. The patient had been suffering quite severely for some time daily from nausea and vomiting, which lasted more or less during the greater part of the twenty-four hours. On percussing the spine, he found the above described tenderness. The patient in describing the pain, said, "it went to her stomach and increased the nausea." A strong mustard plaster was then placed over the spot of spinal tenderness, and in a few minutes, soon after the plaster began to burn well, the nausea and vomiting ceased, and the patient declared herself well, and left the bed whether she had betaken herself. The vomiting returned only once afterwards at the end of two or three days, when the same treatment being employed, it ceased as before and for good.

This is the only case of vomiting in which he has had an opportunity to test this treatment, and as it is not likely that he will have an opportunity to try it in many cases, he thought it worth while to suggest it here in order that others, who are more likely to have the opportunity, and may feel so disposed, may give it a trial.

DR. P. E. VINCENT said that the subject of vomiting of pregnancy should be looked at from a physiological standpoint. Regarding sea-sickness he has treated many cases, and found that food in small quantities or the smell of food does not check nausea, but rather, especially the latter, increases it. We know little about the cure of sea-sickness. Sometimes a tight band around the abdomen will do good. He has found the subcutaneous use of morphine in one-fourth grain doses of more benefit than anything else. He mentioned a case of a young man who left New York for Europe on the steamer of which he was surgeon, and who had two holes in his chest, from an old empyema. About two hours after leaving port he became very sick, but was soon relieved by one-fourth grain doses of morphine subcutaneously, repeated in four hours. There was no more vomiting. Although he did not treat sea-sickness by rule, his general plan was a band about the waist, morphine subcutaneously, lemons and food. Except in a few cases he had not observed good results from chloral hydrate.

DR. KELLY, in concluding the discussion, said he would have wished for a criticism of his paper on its higher relations, but he had derived some satisfaction from the unintentional corroboration which it had received at the hands of the speakers. Dr. Prince, in quoting from the interesting paper which Dr. Harkin, of Belfast, Ireland, had published in the *Lancet* in

[1] See page 337.

1884, mentioned the well-known association between the cervico-spinal region and the neuroses, and also, the effect of vesication in vomiting in pregnancy, thus endorsing the existence of at least one "linked-spot" capable of modifying uterine action. Dr. Reynold's experience of the advantage derivable from nocturnal alimentation is corroborative of the old principle which he, Dr. Kelly, had mentioned of the association of weakness and irritability, and he expressed his hearty sympathy with Dr. Reynold's condemnation of abortion. He did not know if he could claim Dr. Vincent's testimony to the efficacy of fatty food in sea-sickness, a kindred subject upon which his (Dr. Vincent's) remarks threw additional light, as an indication of the conversion of the nervous energy into the vito-chemical form, owing to the strain which such substances produce in the process of digestion.

DR. E. W. CUSHING read a paper entitled

EXHIBITION OF PREPARATIONS OF SEPTIC BACTERIA WITH OBSERVATIONS ON PUERPERAL SEPTICÆMIA.

He described the various germs, now believed to be the exciting causes of acute suppuration, pyæmia, osteomyelitis, etc. They are of three principal classes, first, small round germs or *cocci* in chains, *streptococci* quite similar to those of erysipelas; second, similar round germs in clusters, like bunches of grapes, *staphylococci*. These latter, although all alike when stained, can be divided by plate culture into five varieties, according to their color and appearance, when growing. Third, minute rods, or bacilli, which carry with them in abscesses or cultures a foul odor: 1. Streptococcus; 2. Staphylococcus = pyogenes albus; staphylococcus = pyogenes aureus; staphylococcus = pyogenes citreus; staphylococcus cereus albus; staphylococcus cereus flavus; 3. Bacillus pyogenes fœtidus.

The cocci, when magnified one thousand times, seem about as large as a period in common type. The bacilli fœtidi are about the same width, two or three times as long, slightly oval. They all grow freely on nutrient gelatine, potato, etc., at ordinary room-temperature. Specimens were shown, prepared by Dr. Cushing, both growing in tubes, and stained and mounted for inspection with the microscope. For observing these conveniently, it is necessary to have a substage condensor, and a wide angle objective, preferably an oil immersion as powerful as one-twelfth, giving an amplification of seven hundred to one thousand.

The reader went on to describe various examinations made by him, by the courtesy and under the guidance of Professor Kumdrat and his assistants at Vienna, on the bodies of those women who died at the hospital there, last summer, of puerperal and septic pelvic inflammations. In short, he found that in such cases the above bacteria were present in the uterine veins, and in abscesses, both pelvic and metastatic.

Various facts were adduced, and authorities quoted, to show that puerperal fever ought to be considered not as an entity or epidemic, acquired mysteriously through the air, but that, in all its forms, it is a direct infection, usually carried by the physician or nurse. That it is to be avoided by thorough cleansing and disinfection of the hands and arms of the practitioner and nurse, as well as of the genitalia of the patient, and by avoidance of unnecessary vaginal douches after delivery.

Dr. Cushing showed tablets of one grain each of corrosive sublimate with muriate of ammonia, which he had had constructed[2] and stained blue to avoid mistakes. One of these in a glass with two ounces of water gives a one one-thousandth solution, very convenient for disinfecting the fingers before examinations. A brief résumé of approved methods of treating septic cases by douches and disinfection of the uterine cavity closed the remarks.

DR. Z. B. ADAMS said that he had listened with great interest to Dr. Cushing, having lately had the pleasure to be present at a lecture by Dr. Frederick S. Dennis, of New York, at the new Carnegie Laboratory before the New York State Medical Society, a lecture illustrated by specimens of cultures of the various forms of minute algæ and fungi, such as oïdium, pencillium, aspergillus, etc., besides various bacilli and bacteria shown by the microscope. While in New York, he was happy to hear the statement that the practice, lately somewhat prevalent, of douching the vagina in every case in lying-in women, had been generally abandoned as unsafe.

When we consider how very minute these micro-organisms are it does not seem surprising that they should find their way into the closed cavities, such as the peritoneal sac, without discoverable lesion of parts or previous disease. The important factor in this process must, he thought, be a certain condition of receptivity, a condition either attracting them into the body, or favorable to their growth and development after they had found entrance.

DR. MCCOLLOM was pleased that so much stress had been laid on the subject of cleanliness. He thought that the corrosive sublimate tablets shown by Dr. Cushing would prove of much value. He had never conveyed the poison of erysipelas to a parturient woman, because if he had been brought in contact with the disease, he was always careful not to attend a case of labor unless he had had full and sufficient opportunity for disinfection. It is very important that the physician and nurse should wash their hands in a solution of corrosive sublimate or some other disinfectant before touching a woman in labor.

DR. ROBERT WHITE asked if micrococci are produced spontaneously or from previous germs?

DR. CUSHING replied that as far as known no forms of life are spontaneous, hence, the bacteria of infection must come from parents of like nature. In explanation of Dr. White's reference to apparent spontaneous generation in flasks, he said that one boiling will kill adult bacteria, but not their spores, hence in steralyzing gelatine, etc., it is necessary to bring it about to the boiling point for several successive days, thus killing off all bacteria as they successively emerge from the condition of spores, and before they have time to breed.

DR. WHITE asked how a portion of placenta retained in utero, broke down and became foul.

DR. CUSHING replied that without introduction of bacteria it would not become foul, although it might soften by maceration.

DR. PRINCE asked if septic micrococci develop in putrefying material, or if they are derived only from other cases of disease.

DR. CUSHING answered that this subject is not settled; there is no reason why they cannot be derived from either source. The septic bacteria differ from tubercle bacilli in that the latter cannot develop at less

[2] Made by Fraser & Co., 208 Fifth Avenue, New York.

than 85° F., and so must in nature always come directly from an animal body, but the septic bacteria, like anthrax bacilli can live out doors at ordinary temperatures, and have been found by Passet in kitchen sink-water, and stale butcher-meat. They are not, however, found usually in ordinary cadavera, but only in those dying of septic diseases. In foul wounds, particularly in decomposing carcinomata, in putrid fœtus, etc., there are usually present very virulent bacteria.

DR. PRINCE further asked if the damage done by micrococci is not similar to poisoning by ptomaines?

DR. CUSHING replied that the septic germs seem to secrete, or form by the breaking up of the fluids in which they live, poisonous material, somewhat similar to ptomaines, and suggested whether the latter may not be a bacterial product. The fluids in which the septic bacteria live, when carefully filtered and then injected, are able to cause acute septicæmia, that is, chill, fever, prostration, even death; but they do not cause abscess, nor increase by any process of incubation, for which the living bacteria are requisite.

DR. J. P. REYNOLDS spoke at some length on the interesting progress of medicine in regard to these subjects. He recalled a case, occurring many years ago in Boston, where the wife of a prominent surgeon died, after a long illness, following a confinement where she was attended by her husband, who must also have been attending cases of a nature now known to be infectious.

DR. REYNOLDS described the autopsy, which showed metastatic abscesses, etc., and said that Dr. Jackson then held them in that case to be of a rheumatic nature. Now, how is all changed, both in theory and practice?

DR. REYNOLDS stated that at the lying-in hospital the use of vaginal douches after confinement has been abandoned, except in special cases. Great care before and during delivery, with antiseptic cleanliness, and after delivery the constant use of Dr. Garrigue's pads of borated cotton kept over the vulva to absorb all discharges, had reduced the mortality to almost nothing. Dr. Reynolds, however, still thought that, in nominal cases, with a skilled nurse to give vaginal douches, the latter are a source of comfort and cleanliness.

In closing the discussion Dr. Cushing, referring to the remarks of the last speaker, said that most men were not so fortunate in their selection of nurses, nor so successful in keeping them fully up to their duty, as Dr. Reynolds. As a matter of custom and practice he therefore stated again his conviction that in normal cases such douches were unnecessary, and sometimes dangerous, being a facile source of infection, as well as of other accidents. He considered the interior of the puerperal uterus, when thoroughly aseptic, no more unclean than that of any of the other organs, like the throat or stomach, and not half so much so as the intestine. He insisted that the puerperal uterus should be considered as analogous to a compound fracture, which has been kept or made aseptic, and, if doing well, what surgeon would allow his nurse to meddle with the dressings of such a case; if doing badly, what surgeon would not feel that he must see to it personally? In general, he stated that the whole purpose of his paper had been to show that all puerperal septic processes are only a subdivision, though a very difficult and important one, of surgical wound infection and are to be guarded against and treated on strictly surgical principles.

BOSTON SOCIETY FOR MEDICAL OBSERVATION.

H. L. BURRELL, M.D., SECRETARY.

MARCH 1st, 1886.
DR. W. J. OTIS in the chair.
DR. J. W. ELLIOTT reported

A CASE OF SALPINGITIS, WITH SEVERE SYMPTOMS. REMOVAL OF TUBES AND OVARIES. RECOVERY.[1]

DR. WORCESTER spoke of the excruciating pain that the patient had borne during her menstrual periods. This pain had been somewhat relieved by local treatment that she received from time to time, but always after a few menstrual periods the pain had recurred with terrific force.

She had consulted many physicians but no one had been able to relieve her pain permanently. At the present time, she was unquestionably absolutely cured. She was now able to support herself, and had been removed from invalidism to apparently perfect health.

DR. BOARDMAN thoroughly believed in the operation as an ultimate means of cure. He spoke of the difference of opinion that existed regarding the propriety of performing the operation, and considered that the operation had not as yet been thoroughly accepted; he felt that the future of the operation, however, was a bright one, as it held out a means of great relief to unfortunate patients. Dr. Emmet had claimed that local treatment was efficient where continued over months and years, and that the operation was rarely justifiable. Dr. Boardman mentioned several cases where local treatment had occasioned improvement, but this was followed by relapses. He said that some authorities did not consider a Tait's operation justifiable unless the enlarged tubes could be actually felt per vaginam; now in this case this was impossible, but he felt that the operation performed by Dr. Elliot was eminently a proper one. After long observation and careful elimination of causes, he felt that one could safely operate. Regarding the occasional intervals of relief in pain, that the patient had experienced, he thought that it might be explained as follows:—The tube being filled with pus and the uterine opening being patent, naturally at times the pus would be expressed out of the tubes into the uterine cavity, when this occurred freely he could understand that there might be no pain: when, however, the tubes were contorted, distended and the uterine opening impermeable he thought that pain would occur. He considered the paper submitted by the reader a valuable addition to the literature of salpingitis.

DR. F. B. HARRINGTON mentioned the facts regarding a similar case where the pain had been so severe that the patient twice attempted suicide. She had passed through a great deal of what might be termed palliative treatment, and after a clear understanding with the patient and her friends, the tubes were removed, in fact, the operation was undertaken at the request of the patient, who felt that something must be done. The operation was performed under good circumstances, but was long owing to great difficulty in getting the tubes out in order to ligate them. The patient did not rally well, and died on the third day from an extension of the pelvic peritonitis, which had existed. He asked Dr. Elliot how he secured the tubes?

[1] See page 344 of this Journal.

DR. ELLIOT said that he ordinarily secured the tube in a clamp and then ligated the uterine and the ovarian ends of the tube, but in this case he removed the tube close up to the uterus that there might be no portion of tube containing pus remaining. He said that he had a theory of the cause of the pain in this case: he regarded it as practically a dysmenorrhœa of the tube. Ordinarily the tube in this class of cases is closed at one end and open at the other; when both ends were shut it made the tube practically an abscess cavity. The swelling of the mucous membrane of the tube might readily close the uterine cavity; if this occurred, it can be readily understood that the retained pus would create intense pain.

DR. J. ORNE GREEN then read a paper on

SOME OF THE LESS COMMON FORMS OF MASTOID DISEASE,[2]

illustrated by a number of wet and dry specimens.

DR. C. J. BLAKE inquired of the reader, how much importance he laid on the tip of the mastoid process being very thin.

DR. GREEN said that the perforation of the thin cortex of the tip of the mastoid process he considered was the important thing to recognize.

DR. BLAKE said that he had seen a case of this description, but it had not been recognized. The patient had a thumping pulse, meningeal symptoms and tenderness over the mastoid process. The usual incision was made and the mastoid process was drilled, with only slight relief. Cellulitis, extending downward, followed, which required very free incisions. He considered the paper of great importance as it called attention to this heretofore unrecognized condition; he should now be on the lookout for such cases.

DR. SPEAR said that he had listened with much pleasure to this clearing up of a class of cases.

DR. JACK said that the ordinary Wilde's incision did not reach the fluctuation that existed behind the posterior edge of the mastoid.

DR. MIXTER said that the condition of mastoid abscess was not an uncommon one in dissecting room subjects.

DR. R. B. DIXON then showed the internal organs of a full term fœtus.

THE NEW YORK ACADEMY OF MEDICINE.

STATED meeting, March 18, 1886.

THE SIGNIFICANCE OF SMALL QUANTITIES OF SUGAR IN THE URINE.

The discussion, which was introduced by the Section on Theory and Practice of Medicine, was opened by DR. THOMAS A. MCBRIDE. His attention had first been directed to this subject, he said, by Professor Seegen, at Carlsbad. Many nervous disturbances were now recognized to be due to moderate glycosuria, which under appropriate treatment could usually be completely or almost completely relieved. In addition, it was well known that sugar was not infrequently found in the urine in connection with phthisis, pleurisy, cardiac disease, cerebral hæmorrhage, certain of the psychoses, and other affections. It had been found that sugar when existing only in small quantities was not easily detected by the ordinary tests for this substance. Among the troubles which might be caused by its presence under these circumstances, however, might be mentioned, insomnia, so-called neurasthenia, paræsthesia, hemi-paræsthesia, certain pareses, and even temporary hemiplegia. In order to detect the sugar in the urine it was often necessary to filter the latter through blood charcoal; after which the charcoal was to be washed repeatedly with distilled water. After the second, third, or fourth washing the sugar would be detected by Fehling's test. Dr. McBride said that he had confirmed this test by means of the polariscope, and also by fermentation.

The amount of sugar found in these cases varied from a trace up to two and one-half per cent.; though as large a quantity as the latter was rare. In conclusion, he said that he had to confess that he was at present somewhat at a loss how to say what was diabetes and what was not. He saw so many cases of glycosuria without the thirst, emaciation and other characteristic symptoms of true diabetes that it was not easy to decide the question.

DR. F. P. KINNICUTT said that Lauder Brunton found that after diluting the urine very considerably, and then testing in the ordinary way, he was often able to detect sugar in specimens in which this was impossible if the tests were made without the dilution. Even in the case of normal urine to which one or one and a half per cent. of sugar had been added, there often seems to be something present which prevents the precipitation of the red oxide of copper.

DR. GEORGE B. FOWLER said that when working in the laboratory of Professor Dalton he had repeatedly found sugar in normal urine after the ingestion of sweets. It had for some time been known that sugar could not be detected by the ordinary tests under certain circumstances, and Dr. Dalton was accustomed to filter the urine through animal charcoal before applying these tests. If we added enough honey to normal urine to make a thick gum, no precipitation of oxide of copper would take place on the application of Trommer's test in the ordinary way; but if we imitated the method of Fehling's test by employing an excess of test-fluid and only a few drops of saccharine urine, the precipitation would at once occur.

If sweets were taken freely, especially upon an empty stomach, glycosuria was very apt to be produced, and hence when an individual consulted him in whose urine he found sugar, but not a high specific gravity, and who did not present the ordinary symptoms of diabetes, he always inquired if he habitually used sweets or suffered from defective digestion. Patients in which such a condition was found, as a rule recovered very quickly under proper diet. In explanation of the point stated by Dr. Kinnicutt, he said that the substance which interferes with Trommer's test is the ammonia in the urine, which redissolves the red oxide of copper as soon as it is formed.

DR. WM. H. DRAPER remarked that he had ceased to attach much importance to the occasional occurrence of very small quantities of sugar in the urine, for the reason explained by Dr. Fowler. He had found it very often, particularly in the lithæmic state; in which there were seen the evidences of suboxidation. When the urates in large amount and crystalline uric acid were present in the urine, sugar was very likely to be found also. All were to be attributed alike, he thought, to defective metabolism; and the treatment which rendered the urine normal in other respects,

[2] See page 341 of this Journal.

would also remove the sugar. As Dr. McBride had remarked, it was difficult to say where diabetes really commenced. Sugar was not infrequently found in the urine of patients passing not only imperfectly assimilated hydro-carbons, but also imperfectly assimilated nitrogenous food; and therefore sugar was often to be regarded simply as an indication of dyspepsia.

DR. MCBRIDE said that uric acid would sometimes cause the precipitation of the red oxide of copper. Sugar when persistently present in small quantities in the urine, seemed to indicate an excess of sugar in the blood: and it was the persistent presence of sugar which was important. It might be another kind of sugar not derived from glycogen, but from the muscles. Ordinary sugar could be detected after dilution of the urine, as had been mentioned; but this required the filtering through blood charcoal.

DR. DRAPER said that he did not think that we could distinguish any difference in the cases of nervous disturbance in connection with lithæmia, whether sugar was present in the urine or not. Bence Jones, of London, had remarked that that "sour disease," gout, was very closely allied to the "sweet disease," diabetes mellitus, and long ago had pointed out the important fact that gout and diabetes very frequently existed in the same families and even in the same individual.

DR. MCBRIDE then said that he agreed with Dr. Draper; but he also claimed that sugar was the actual cause of nervous symptoms, just as wine and other agents might be.

DR. E. DARWIN HUDSON, JR., called attention to the importance of shock in the production of diabetes. Sugar had been found in connection with whooping-cough, the presence of enlarged bronchial glands, spasmodic asthma, and convulsions; and we are therefore led to the conclusion that it was the disturbance of the pneumo-gastric which affected the glycogenic function of the central nervous system.

The President, DR. A. JACOBI, remarked that in a great many persons, at times, sugar was found in the urine in small quantities which could be detected by the ordinary tests. As a rule, such patients were beyond middle life. When he was a student he had been taught that diabetes was a very rare disease, and that it was always fatal. It was true, indeed, that the cases in which the specific gravity ranges from 1040 to 1060 were rare; but cases in which it ranges from 1017 to 1035 were very frequent, and they were by no means always of a mild character. Still, quite a large number of such patients lived a long time, and some got entirely well. A considerable proportion of these cases were in gouty individuals. When their general health was good very little sugar was to be found in the urine; but when they began to fatten up and took little exercise, the quantity might be sufficient to produce pruritus vulvæ in the case of females.

When such patients contracted other diseases, however, and especially pulmonary affections, they were in the greatest possible danger; and, as a rule, they would not survive an attack of pneumonia. Even though there might have been no sugar at all in the urine for months or years before, if they got pneumonia, the most pronounced glycosuria was apt to become rapidly developed. Such a case was that of a physician, forty-two years of age, whom he had known. He had formerly had diabetes and was an expert in urinary examinations, but for six years his urine had been absolutely free from sugar, when he was taken ill with pneumonia. For two days he did well, but he was then seized with intense thirst, and, suspecting that there was a return of his old trouble he requested that his urine should be tested for sugar. This was accordingly done, and it was found that sugar was present in large quantities. As soon as he was informed of the result of the examination he remarked: "Now, I will go," and two days afterwards he was dead.

DR. JACOBI, having remarked that, as far as his experience went, every such case was doomed, then went on to speak of four brothers, whose ages ranged from fifty-one to thirty-nine or forty, all of whom were or had been the subjects of diabetes. The first had developed the disease about ten years ago, and never being willing to observe any care in his habits or diet, it had progressed, and he had now been attacked with pulmonary disease, so that it was not difficult to see that his days were numbered. The second brother, on the contrary, had used extreme care in his diet and the general attention paid to his health, and there had now not been a trace of sugar in his urine for four years. In the case of the third brother there was an occasional return of glycosuria after excesses in diet; and the fourth one was now also diabetic. This history showed that in a large number of cases the presence of sugar in the urine indicated defective assimilation. If this condition were not treated it might result in persistent diabetes and finally terminate in pulmonary disease. He would say, therefore, that sugar in small quantities did not signify much as long as a good general state of health was maintained, but it might be the source of great danger when other disease set in.

The second part of the evening's discussion was devoted to

THE TREATMENT OF DIABETES,

and this was opened by DR. F. A. BURRALL, in a short paper in which he gave a concise *résumé* of the views of the best modern authorities upon the subject. He concluded by remarking that while all the medicinal agents held in repute in diabetes were no doubt of more or less service, in connection with a restricted diet, not one of them had been shown to have any effect without thus restricting the diet.

DR. CAULDWELL said that his remarks would be confined entirely to the so-called specific jambol. About three months ago he had received a letter from London, from a former student, in which he said that this agent was now accepted in the East Indies as a cure for diabetes, and he had now prescribed it in four well-marked cases of the disease. In all the patients, before taking the drug, the daily quantity of urine passed exceeded one hundred ounces, and in all the specific gravity of the urine was above 1030. Sugar was also abundant and all the ordinary symptoms of diabetes were present.

All the patients were treated alike, and were kept on anti-diabetic diet with a moderate allowance of toasted bread. Five grains of the powdered jambol seed were given three times a day.

In the first case the beneficial effect was most pronounced. In two months the patient gained twelve pounds in weight, and the sugar entirely disappeared from the urine. It had now been absent from it for a month.

In the second case the remedy was given for four weeks without any apparent benefit.

In the third case a gradual improvement had taken place. The daily quantity of urine passed was reduced to eighty-two ounces, and the specific gravity to 1030; but sugar was still abundant.

In the fourth case, after five weeks of treatment the daily quantity of urine was reduced to fifty ounces, and the specific gravity to 1028; while the patient had gained ten pounds in weight.

In addition to these cases Dr. Cauldwell said that through the courtesy of Dr. Samuel Alexander he was enabled to report two others which had been under the care of Drs. Keyes and Alexander. In the first of these the improvement had been very satisfactory; but in the second there had been no improvement whatever. In four cases out of six, therefore, the use of jambol had been followed by improvement, while in two it had proved a failure. In other words, in two-thirds of this small number of cases it had seemed beneficial and in one-third not. He regretted that Dr. Weber was not present, as he understood that he had used this agent in a larger number of cases than himself.

DR. DRAPER remarked that excluding the diabetic treatment, it might be truly said that the treatment of diabetes was as purely empirical as our knowledge of its pathology was speculative. There was no trustworthy testimony that drugs alone, without the more or less complete restriction of saccharine and starchy food were of any service; and while medicinal agents were undeniably useful as adjuvants, his experience led him to believe more and more that the dietetic and hygienic management constituted the essential factor in the successful treatment of this affection. The majority of cases of diabetes belonged to the form of the disease known as the benign. The severe cases, in which the sugar was derived not only from the hydrocarbon, but also from the nitrogenous food, generally occurred in persons who had received some severe shock or had been suffering from grave tissue changes in the system. In these, unfortunately, drugs were of little value.

He then spoke of three agents which had proved of especial service in his hands and the first of these was codeia. Opium, he thought, was a great boon to the diabetic. The second was sulphide of calcium, and he said that his attention had first been called to it by Dr. Husted, formerly of New York, but now residing in Tarrytown. Some years ago this physician, while himself suffering from diabetes, employed sulphide of calcium for the relief of furuncles with which he was at the time affected; and to his surprise he found that under its use the sugar disappeared from his urine. He had remained well up to the present time, and was able to live on a simple mixed diet without causing a return of the glycosuria. Personally he had found it a useful remedy; prescribing it in one-fourth and one-half grain doses before meals. It was followed with good results in a large number of cases, especially in gouty patients, and he believed that it enabled the subject of diabetes to indulge in a greater variety of diet than he could otherwise do. The alkaline carbonates, the third agent referred to, he had also found very valuable. He believed that both gout and diabetes were not infrequently due to defective metabolism, and it was therefore a rational treatment under the circumstances to stimulate oxidation.

DR. DADIRRIAN said that in Constantinople and other places in the East matzoon, or fermented milk food, was very largely used in the treatment of diabetes. In this preparation, which originated in Armenia many centuries ago, there was no sugar, the sugar being converted into lactic acid; and he believed that it was a very valuable adjuvant in this affection.

DR. R. F. WEIR alluded to the subject of gangrene in connection with diabetes, and described three such cases which had recently come under his own observation. In looking up the literature of this complication he had found extremely meagre information. In regard to amputation for the condition many cases were reported of the small members, such as the fingers and toes; but he had been able to find the record of but nine amputations of the thigh, and in only one of these did recovery take place. Under the circumstances, therefore, he had naturally hesitated to perform this operation.

DR. SIMON BARUCH said that there was one point in the treatment of diabetes which had not received the attention which he though its importance demanded, and this was the benefit to be derived from muscular exercise. In this disease there was a marked tendency to lassitude and indolence, and he believed that it was highly important that the patient should be induced to overcome this, and take a sufficient amount of judicious exercise. In feeble cases massage was of great value.

DR. DRAPER and KINNICUTT having referred to the great danger liable to result from over-fatigue, Dr. Baruch said, that of course, muscular exercise, like any other good thing, could be abused.

Recent Literature.

RECENT LITERATURE ON CLIMATOLOGY.

Climatology and Mineral Waters of the United States. By A. N. BELL, A.M., M.D., Editor of the Sanitarian, etc. New York: William Wood & Co. 1885. pp. 386.

Moisture and Dryness; or the Analysis of the Atmospheric Humidities in the United States. An Essay read before the American Climatological Association (1884). By CHARLES DENISON, A.M., M.D., etc. Chicago: Rand, McNally & Co. 1885. pp. 30.

The Climate of Canada and its Relations to Life and Health. By WM. H. HINGSTON, M.D., D.C.L., L.R.C.S., Edin., etc. Montreal: Dawson Brothers. 1884. pp. 266.

The books before us show how the interest in the climatology of America has grown of late years; and they show too that this interest is not a purely scientific one, but has also in view an application of the knowledge gained to the wants of invalids.

If man cannot live on bread alone he certainly cannot maintain existence on air alone, however salubrious and free from germs that air may be; in this fact lies the explanation of the favor in which European health resorts have been, are still, and will yet long be, held by Americans, especially by the educated and wealthy classes. Within our own limits climates of greater variety and perfection are to be found than in Europe; but the provisions for comfort, occupation, and amuse-

ment have seldom been such as to tempt the fancy and supply the needs of real or imaginary invalids with bank balances. A separation by three thousand miles of ocean from the worries of active home life, the fresh interests of another language or different manners and customs, and the varied facilities for more or less profitable amusement offered by an older civilization, will for a long time to come help fill the coffers of Europeans with the gold of California, while our own caterers to health must remain content with the buzzard silver dollar of Nevada.

We have, however, made real progress of late, and there are now some places of resort at home where the requirements of northern ideas of comfort are fairly met, and at the same time some recognition is shown of the adaptability of the mind of man to objects not connected with money making. More could be said upon this head, but we have allowed ourselves already to be led too far on the path of introduction.

Dr. Bell's book contains much valuable information derived from his own studies and experience and collected from many sources, all the more important of which seem to have been utilized. In the nature of things such a work must remain for most people chiefly one of reference. The first twelve chapters tell us what climatology is, and discuss the elements which enter into its composition: the next hundred pages are given to the climatological topography of the United States with special reference to mineral springs, full analyses of the waters of which are printed. We cannot help wishing that Dr. Bell could have seen his way to indicating the moral and material resources offered by the more important of these to those who may wish to drink the waters as they issue from the earth.

As in society-conversation the weather claims its full share — nearly a third — of our attention. This portion of the book is abstracted from the reports of the Signal Service for 1881. The last three chapters are on seasonal mortality, the relations of climatology to life insurance, and practical conclusions.

Dr. Bell speaks in a more confident tone of the anti-malarial properties of plantations of the eucalyptus globulus than it seems to us the circumstances warrant. Late reports from Tre Fontane do not bear out the promise of the earlier ones. In 1882 the convicts and the monks themselves were severely attacked by malaria, although careful precautions were taken, and the neighborhood of Rome was unusually free from malaria that season — a dry one. The French experience in Algeria is also somewhat discouraging.[1]

According to the reports of army surgeons, Yuma in Southern California seems to be a pleasant place in April, May and June. No rain falls, with the mercury at 105°, "the perspiration is scarcely seen upon the skin, which becomes dry and harsh, and the hair crispy. Furniture, to hold together, must be made of the very driest timber, the ink dries so rapidly upon the pen that it requires washing off every few minutes. A No. 2 Faber leaves no more trace on paper than a piece of anthracite, and it is necessary to keep one immersed in water while using one that has been standing in water for some time. Newspapers require to be unfolded with care; if rudely handled they break. I was called to inspect some commissary stores a short time ago, and the loss they had sustained was remarkable. Twelve pound boxes of soap weighed ten pounds. Hams had lost twelve per cent., and rice two per cent. of their original weight. Eggs that have been on hand for a few weeks lose their watery contents by evaporation; the remainder is thick and tough; this has probably led to the story that our hens lay hard-boiled eggs." The mercury stood at 132° in the shade for two hours on July 2d, 1873. "A temperature of 100° may exist at Fort Yuma for weeks in succession and there will be no additional case of sickness in consequence. . . . The heat depresses the already debilitated, and we miss the tonic effect of the cold weather; but those who come here in good health and observe the ordinary rules for preserving it will have nothing to fear from the high temperature."

Dr. Denison's pamphlet is a reprint from the *New York Medical Journal* of a paper read by him before the American Climatological Association, at its meeting in Washington in 1884. It was noticed in these pages at the time and is quoted freely by Dr. Bell, who calls attention to the fact that many phthisical persons do extremely well in the moist atmospheres of the ocean and of some forests; evidence that a low absolute atmospheric humidity, such as is found in Denver and Colorado Springs, does not fairly deserve the preponderating influence on consumption which Dr. Denison seems to claim for it.

We have left ourselves scant space in which to speak of Dr. Hingston's book on the climate of Canada, one of the most interesting portions of which is that devoted to the physique of the French Canadians — "the healthiest white people on this continent."

Tales of their prowess are related, and with one of these we must indulge our readers. A certain Grenon, we are told, was walking in the woods one Sunday when he met a full-grown bear; the beast was wise and tried to run away, but the Frenchman overtook him, brought him to bay, seized him by the back of the neck, and dragged him in spite of vigorous remonstrances through the woods to the church door, where the people were collecting for mass. What the muscular Christian then did with his captive, or what the people did we are not informed. It gives us pleasure to state that Dr. Hingston brings more credible, if not stronger evidence than the above, that in the climate of Canada the vigor of the French stock has undergone no deterioration. F. C. S.

[1] Practitioner, July, 1885.

Transactions of the American Surgical Association. Vol. III. Edited by J. Ewing Mears, M.D., Recorder of the Association. Philadelphia: P. Blakiston, Son & Co. 1885.

This volume contains the papers read before the Association at the meeting held April 21–24, 1885. Many of these papers, particularly when taken in connection with the discussions upon them by members of the Association, are of extreme interest.

J. B. Roberts, M.D., of Philadelphia, in an able paper on "The Surgery of the Brain," advocates a much bolder line of treatment than that usually followed. He lays the greatest stress upon the importance of a careful study of the science of cerebral localization. This paper was the subject of a recent editorial in the Journal.

Not less interesting are two papers on "The Surgery of the Kidney." Dr. S. W. Gross, of Philadelphia, furnishes an exhaustive statistical paper on "Nephrectomy," based on a careful study of 450 cases. Dr. Tiffany, of Baltimore, reports a case of nephrolitho-

tomy, in which a phosphatic renal calculus, weighing 556 grains, was removed piece-meal. This stone is the largest ever extracted from a kidney. The patient made a good recovery. Notable features about the operation were the cutting into the kidney substance with the blade of Paquelin's cautery, and the scraping out of the crumbling calculus by means of a sharp spoon.

Dr. J. W. S. Gouley, of New York, contributes a paper on "The Treatment of Enlarged Prostate." He affirms that different cases call for different varieties of catheters, and that no one catheter is *the* catheter for every case. He would, however, do away entirely with all rigid catheters, except in cases where false passages exist. In view of the well-known danger of rapidly emptying a bladder long accustomed to hold residuary urine, he recommends that small quantities of such urine be drawn off from day to day, and about one-half the quantity of warm, borated solution be injected in its place. He describes a prostatectome of his own, which is said to be able to cut or punch out a segment of the prostatic lobule three by nine millimeters in size.

A paper of more purely scientific interest is that on "The Healing of Arteries after Ligature," by J. C. Warren, M.D., of Boston. Dr. Warren compares the process of cicatrization of a vessel to the development of callus in a broken bone, and makes the novel observation that muscular tissue is present in the cicatrix. A provisional report, embodying practically the same views, was read before the Boston Society of Medical Sciences at a meeting held March 20, 1883. It is understood that Dr. Warren intends to publish soon a more complete account of his experiments.

Lack of space prevents more than a mere mention of the admirable paper on "Air-Embolism," by that indefatigable worker, Dr. N. Senn, of Milwaukee; as well as that on "Traumatic Tetanus," by Dr. P. S. Conner, of Cincinnati. A short, concise paper on "The Culture of Surgical Bacteria" shows how thoroughly its author, Dr. H. C. Ernst, of Boston, has investigated his subject.

Of the other papers, that on "Phosphorus-Necrosis of the Jaws," by J. E. Mears, M.D., of Philadelphia, deserves special notice, an account of its originality and completeness.

It is to be hoped that the future of the Association may be such, that the wishes and expectations of its illustrious founder, Dr. Samuel D. Gross, be realized, that the Association become a national one in every sense of the word.

Lüftung und Heizung von Schulen, Ergebnisse im Amtlichen Auftrage Ausgeführter Untersuchungen. Von HERMANN RIETSCHEL, Professor an der Königlichen Technischen Hochschule zu Berlin. Berlin: Verlag von Julius Springer. 1886.

In this work, Professor Rietschel has published the results of his observations with reference to the ventilation and heating of twelve higher grade schools in Berlin.

The principal divisions of the subject are: 1. The determinations of the ratio of carbonic acid present in the air of occupied rooms, which the author acknowledges to be the only practical test of air pollution.[1] 2. Measurements of the movement of air in the ventilating ducts or shafts, by the anemometer. 3. Observations on the temperature, or distribution of heat in school-rooms, at different elevations in each room, and also as affected by different modes of heating, by steam, hot-air, stoves, etc., and also as affected by gas, and by electric lighting. 4. Measurements of humidity of the air of school-rooms

Fifty carefully-arranged tables, and thirty-six charts or diagrams are also presented, fully illustrating the subject, and making the work a valuable addition to the practical literature of school-hygiene.

[1] A convenient, portable, and tolerably accurate method of readily determining the amount of carbonic acid in the air of school-rooms, should be devised for the use of teachers in our public schools, such an instrument being quite as essential as a thermometer.

Drainage for Health: or Easy Lessons in Sanitary Science. By JOSEPH WILSON, M.D. Second edition, with important additions.

Dr. Wilson's book treats of land-drainage, the drainage of farm-houses, villages and cities, and other kindred topics. It is written in an entertaining and somewhat colloquial style, and is amply illustrated.

It would appear from the following closing paragraph, that the author was not unfamiliar with the needs of Massachusetts.

"Our ideal Board of Health is principally composed of persons who have made hygiene a matter of study. The legislation necessary for such an organization must be discussed by our lawyers and law-makers; and there is good reason to hope for great improvement in the near future."

Fractures and Dislocations. By T. PICKERING PICK, F.R.C.S., Surgeon to, and Lecturer on Surgery at St. George's Hospital; Member of the Court of Examiners, Royal College of Surgeons of England. pp. 524. Illustrated with 93 engravings. Philadelphia: Lea Brothers & Co.

This little book is one of the blue-covered series of Clinical Manuals for Students and Practitioners. The author states that in writing the book he has kept the fact steadily in view that it should be essentially clinical, and he has therefore sought to present "a concise and practical treatise of the causes of the various common fractures and dislocations, the signs by which they may be recognized and the appropriate treatment to be adopted for their cure." In this he has succeeded admirably. The book bears a distinctly clinical and practical stamp. In laying down rules as to symptoms and treatment the author relies principally on those, which, as he tells us, he has found by practical experience in the wards of St. George's Hospital to be most efficacious.

It is not to be expected that exactly the same methods of treatment for each injury which American surgeons have found to be the best will be recommended in an English book: and yet in the manual before us the differences are for the most part unimportant, and the great principles upon which all lines of treatment should rest are clearly laid down.

The book contains an amount of information remarkable for one of its size. The engravings, many of which are new, are clearly cut and serve amply to illustrate the text. Indeed, as a short treatise on fractures and dislocations the book is a success, and we heartily recommend it.

— According to a law recently enacted in Georgia, "preparations of morphine sold must be wrapped in a scarlet paper, naming the contents of the package in white letters."

Medical and Surgical Journal.

THURSDAY, APRIL 15, 1886.

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THE HEALTH OF PROVIDENCE DURING THE YEAR 1885.

THERE were 2,161 deaths in Providence during the year 1885, as compared with 2,223 in 1884, 2,328 in 1883, and 2,242 in 1882, or at the rate of 18.3 per 1,000 of the census population for the year, of 118,070, the lessened mortality being chiefly from the so-called zymotic diseases. The record is a very favorable one and the report indicates intelligent work.[1]

Of the excessive prevalence of malarial diseases, not indicated in the death-rate, the board says malarial diseases have continued to prevail extensively in certain parts of the city, but it is believed that on the whole the number of cases is slowly diminishing. Several large pond holes in the western part of the ninth ward which were undoubtedly breeding places for this poison, have during the year been filled, resulting in a very great decrease in the chills and fever which have for several years afflicted nearly one-half of the population living in the immediate vicinity. In the eastern part of the ninth ward, where the conditions have remained the same, malarial diseases have shown a considerable increase. In the northerly part of the city, also, malarial diseases are reported to have increased and to have appeared in certain parts of the valley of the West River, along the borders of the mill-ponds, where they were before unknown. Along the northerly slope of Federal hill, malaria has diminished slightly, possibly due to the partial filling of a shallow pond in that vicinity. There is no question that malaria will cease to prevail whenever the swamps and lowlands in which it develops are properly drained and filled. The work which has been done in this direction has shown excellent results, and the amount which is thus expended will certainly prove a good investment for the owners.

The fear of cholera stimulated an improved public sentiment, under the influence of which better sanitary work could be done than usual; it showed itself chiefly in greater cleanliness and more attention to the control of infecting diseases on the part of the community as well as by the health officer who had most thorough sanitary inspections of the city made, and distributed freely circulars of information regarding the proper means of guarding against cholera and the other filth-diseases and sources of infection.

The law requiring physicians to report cases of "cholera, yellow-fever, typhus fever, typhoid fever, cerebro-spinal meningitis, diphtheria, small-pox, scarlet fever, measles and intermittent fever, and such other contagious, infectious or epidemic diseases as the superintendent of health may from time to time direct," is reported to be "pretty generally complied with," and supplemented by similar reports from teachers in the public schools.

The practice of placarding houses where cases of scarlet fever, diphtheria and small-pox occur, met with so little opposition it has been made compulsory in all cases.

During the year, 16,766 persons were vaccinated by eleven physicians employed for that purpose, a house-to-house inspection having been made. It was compulsory on the part of children attending schools but not so with adults. The number refusing vaccination was "extremely small and would certainly be very much increased by making it compulsory." A considerable part of the report is devoted to an able defense of the practice of using humanized virus and to directions for vaccination.

The city and its population are such that the conditions favorable to health abound there more than in many other New England cities, but the report of the superintendent of health indicates intelligent, zealous, and telling care of the public health.

[1] Third Annual Report of the Superintendent of Health of the City of Providence for the year ending December 31, 1885.

INDIRECT FRACTURES OF THE SKULL.

THE mechanism by which indirect fractures of the skull, or, as they were formerly called, fractures by *contre-coup*, is produced, has occupied the attention of surgeons for many years. Sir Charles Bell, Sir Benjamin Brodie, Guthrie, Hilton, Hewitt, and Aran, have written excellent monographs on the subject.

In 1854, the key-note to a new theory of causation was struck in Germany, by the experiments of Bruns, of Tübingen, who demonstrated what an important part the elasticity of the skull played in the production of these fractures.

In a most valuable work, published in 1873, entitled "*Recherches Anatomiques et Expérimentales sur les Fractures du Crâne*," the author, Félizet, directs attention to the fact, that a fracture of the skull is the consequence of a depression of the curved surface situated between two resisting points: that violence tending to depress this curve, he divides into a driving force, which acts in the line of its direction; and a disruptive force, which acts transversely to the diameter of the former. He attempts to show that all fractures not immediately limited to the point of impact, follow definite routes, to which they are restricted

by the added strength of certain parts of the skull, due to the existence of buttresses, namely: the petrous bones, the orbito-sphenoid prominences, the occipital protuberance, the basilar process, and the antero-lateral parts of the occipital bone, which remain intact, amid all fissures and fractures occasioned by violence. He also shows that the dura mater makes the skull, where it is attached, more resistant to fractures caused by flattening its curve.

Messerer, in 1884, (*Experimentelle Untersuchungen über Schädelbrüche*), demonstrated, by exhaustive experiments and the examination of many specimens, the elasticity of the cranium; and made it clear, that when the skull is compressed in one axis, the circumference at right angles to it is enlarged.

The production of indirect fractures, then, depends upon the fact that the skull is practically a hollow, elastic case, approximately oval in shape. When a force is applied to any curvilinear portion of its surface, if this part does not give way immediately, the axis of the skull, lying in the same line as that of the directed force, is shortened: and all the axes, in planes at right angles to this line, are correspondingly lengthened, with a proportional increase of their circumferences, and a separation of their meridians. In other words, what is called the "Bursting Theory," assumes that a direct depressing force is converted into an indirect disruptive force, brought about by a shortening of the axis parallel to the direction of the applied force, and by a complementary lengthening of the axes at right angles to the former. The effect is to produce a fracture or fissure, which will have a general meridianal direction.

Dr. Charles W. Dulles, at a meeting of the College of Physicians of Philadelphia, read an elaborate paper, the object of which was to show the correctness of this theory. In an analysis of one hundred and nineteen cases one hundred and eleven presented fissure which corresponded with what would be expected from an application of the above principles, while only eight cases seemed to contradict it.

The "Bursting Theory" must, however, be subject to many modifications. In point of fact, the elasticity of the skull is very insignificant. The momentum of a fracturing force must play a very important part in the effect produced, and the gradations between fractures occasioned by a terrific violence, and those by falls or blows — the usual causes of fractures of the skull — are innumerable. In fact, Greder, in 1885, accepting the fact that fractures of the base are to be regarded as the result of bursting, expresses the belief, that while the direction of a fissure is parallel to that of the force which produces it, its extension is dependent upon so many intercurrent conditions, that its direction can only be suspected from the intensity of its cause; and that the point at which the burst begins is where the resistance to the disruptive force is least.

The very interesting article of Dr. Dulles, which is the source from which the above remarks have been abstracted, carefully follows out the history of the subject, and contains a detailed analysis of the large number of specimens, on which its conclusions are based. This paper will appear in a forthcoming issue of the Transactions of the College of Physicians of Philadelphia, entitled "The Mechanism of Indirect Fractures of the Skull."

CLAIRVOYANT DOCTORS AND THEIR PRESCRIPTIONS.

THE following communications are published, not as a rarity, for the mails are daily carrying hundreds such from all the large centres of this State, but because they are types of much that passes current as good medical coin in certain classes of the community. To indicate the disease and treatment by simply looking at a lock of your hair or examining your handwriting, certainly presupposes a high degree of diagnostic expertness, which makes the possession of a good education, or even a fair acquaintance with grammar and orthography, rather superfluous.

The letters here given (selected from numerous similar ones) are genuine products of clairvoyant skill, and were paid for at the usual rates by their recipients, who are now desirous that the profession should profit by them; therefore they are generously donated to the readers of this Journal.

We have not attempted any correction of the orthographical and other errors, desiring to present the communications in their native simplicity.

M ——, MASS., FEBRUARY 27, 1884.

Examination of Mrs. Mary E. J——.

There is a bilious torpid state of the liver, an over secretion of bile, this leaks into the stomach, weakens the absorbents, and retards digestion. The blood accumulates in the veins, causing intermittent pulsation, and the heart to work too hard. At times, there is too much internal heat, the blood does not equalize to the surface as it ought. At times, Heated blood is retained at the kidneys, causes a dull feeling in the head, also nervous agitation.

Prescription.

One-half ounce Gentian.
One-half ounce Pleurisy Root.
One-half ounce Comfrey Root.
One-quarter ounce Golden Seal.

Steep in 1 qt. water, reduce one fourth. Strain off, add two oz. sugar, boil ten minutes. Dose two tablespoonsful, one-half hour before eating three times a day.

1 oz. fluid extract of Buchu. Dose, one-half teaspoonful add one-quarter gill water. Take every evening.

Yours Truly, Peter J. B——.

DR. ——, CLAIRVOYANT AND BOTANIC PHYSICIAN.

Terms of Treatment: Five dollars per month, payable in advance; all medicines found.

S ——, ME., JANUARY 25, 1886.

Mr. H.—— Yours received. Trouble in this case is caused by chronic disease of the liver and kidneys, causes the blood to be sluggish in circulation, leaving the blood impoverished and impure. Debiliating the mucus tissues of the kidneys, stomach and lungs. Debiliating the gastric juice of the stomach, also the nervous and muscular system. Consider the case can be helped. Notice head of letter for terms of treatment.

Yours Respectfully, W. W. F——.

For graphic presentation and explicitness of diagnosis, the above communications have rarely been excelled, although in the JOURNAL of December 7, 1882, will be found a letter which will prove of quite as great interest, in which "bacteria fungi" and the "elementary" canal figure prominently.

MEDICAL NOTES.

— We learn that Dr. John S. Billings, of Washington, has been chosen to deliver the address in medicine before the next meeting of the British Medical Association, in place of Dr. Austin Flint, deceased. The appointment will, we think, commend itself to the profession on both sides of the water.

— The *London Lancet* has reason to believe that Sir James Paget, Professor Burdon Sanderson, and Dr. Lauder Brunton have, together with Sir H. Roscoe, consented to serve on the British Commission to inquire into M. Pasteur's method of inoculation for hydrophobia; and the Government intends to seek in addition the services of a few distinguished physicians, including Sir W. Jenner.

— "A further death of a patient when under chloroform," is reported in an esteemed English contemporary. This puts the peril from that anæsthetic in an especially vivid light. Instances have been unfortunately common where simple death has resulted from its use, but we do not remember to have seen any case heretofore where the fatality outlasted the present life. On the whole, ether seems safer.

— Atlantic City, N. J., has adopted and had in operation since July, 1885, a system of filtration for its sewage. The matter is collected by the sewers in a reservoir thirty feet in diameter and twenty feet deep, with a ventilating shaft seventy-five feet high. Thence it is pumped upon filtration beds on the salt meadows half a mile to a mile from the city and hotels. The effluent is said to be only slightly discolored, and the odor at the beds to be but slight.

— A correspondent of the *Lancet* relates the following curious case of triple pregnancy: "Mrs. T—— was delivered three months ago of a healthy male child. For four days all went well. On the evening of the fourth day, intense labor pains set in, and a substance the size of a pigeon's egg was expelled from the vulva. On examination, this proved to be twins, in a perfectly healthy state. The patient made a good recovery, and three months afterwards the first-born child was healthy and well. This was the patient's first pregnancy."

— An uncomfortable experience was that related by a speaker at the recent meeting of the Ramsey Co. (St. Paul) Medical Society. He was operating for the removal of a solid ovarian tumor, when, there being free hæmorrhage, a "Paquelin" cautery (not, however, the genuine instrument) was used. When nearly all the points had been touched the shank suddenly unsoldered from the handle and dropped, white-hot, into the abdominal cavity. The intestines were seared in several places, but no eschar resulted, and the woman recovered in three weeks.

— A case of what was diagnosticated by the attending physicians as Asiatic cholera has appeared at Pinconning, Mich. The patient, however, recovered. The State Board of Health, having investigated the case, seems to have accepted the diagnosis, and is inclined in the absence of any other apparent means of infection, to attribute the disease to a box of Valencia raisins, the patient having been in the habit of eating freely of raw raisins. No other cases have appeared, on account, as is claimed, of the thoroughness with which the patient's discharges were disinfected. To the minds of outside observers there will remain, we fancy, should no further evidence be presented, some doubt as to the genuineness of the case.

BOSTON.

— Legislative hearings have recently been held by the Committee on Water-Supply on the petition of the city of Boston to take the Shawsheen River as a source of supply, proposing to abandon the Mystic; by the Committee on Public Health, relative to a bill forbidding the cutting and delivery of ice from ponds and streams polluted with sewage; also a hearing on a bill empowering the Board of Health to close all vaults and cess-pools on streets provided with sewers. The proposals of the Drainage Commission in regard to the drainage of the Charles River Valley, have also been under consideration by the Committee on Drainage.

— Among the changes, of which our readers have already been informed, which have been made by Surgeon-General Holt in the medical department of the State militia during the past two years, has been the organization of an ambulance corps, placed under the charge of a commissioned medical officer. This corps made its first tour of duty last summer with the Second Brigade at Framingham. We learn that a similar corps will shortly be organized and attached to the First Brigade. A permanent field hospital will be erected this spring near the Brigade headquarters on the camp grounds at Framingham, and it is intended to have the building sufficiently large and suitably arranged for the quarters of the ambulance corps. General Holt has the plans for a large two-horse ambulance, which will be constructed in season for the June encampment, and will then be kept regularly at the Framingham grounds.

NEW YORK.

— At the meeting of the Society of Medical Jurisprudence and State Medicine held April 8th, the subject of discussion was the question, "In the Absence of any uniformly-accepted Definition of Insanity among Alienists, is it wise to establish a Legal Definition?" The first speaker was Dr. E. C. Spitzka, who declared himself as opposed to a fixed statutory definition, on the ground of its impracticability. H.

H. Russell, Esq., expressed the opinion that the term insanity should never be applied except where the patient was beyond recovery of his reason. Dr. Wm. A. Hammond spoke of the difference between legal and medical insanity, stating that a person might be medically insane, and yet be held by the law to be sane. The standard adopted in New York was correct, he thought, that a man was insane when he did not know right from wrong, or the nature or consequences of his acts.

— Dr. Edward G. Janeway has been appointed Professor of the Principles and Practice of Medicine in Bellevue Hospital Medical College, in the place of the late Dr. Flint. In recognition of Dr. Flint's long and distinguished services at Bellevue Hospital, the Commissioners of Charities and Correction have decided, at the request of the Medical Board, to put up in that institution a mural tablet to his memory.

Miscellany.

A SERIES OF CASES OF TUBERCULAR MENINGITIS.

IN the *Polyclinic*, March 15, Dr. J. H. Musser gives a series of notes based on thirteen cases of tubercular meningitis, all observed in private practice. Among the conclusions of interest that are drawn are the following:—

Tubercular meningitis may be considered a disease (1) of frequent occurrence, in the middle and lower classes especially; (2) more common than other localizations of turberculosis, except the pulmonary; and (3) much more frequent than other varieties of meningitis.

Among the causes most prominent are, age, hereditary predisposition to turberculosis, poor hygienic surroundings, and insufficient and poor food. The prime factor, always to be looked for, is the presence of a primary focus, inflammatory, tubercular, or "cheesy." The important symptoms presented in this series of cases were, in addition to the ones usually noted, in the premonitory stages, emaciation, irregular fever, and gastro-intestinal disorder without vomiting; in the succeeding stages, purulent conjunctivitis, erythemas, and other vascular changes in the skin, excessive emaciation, fever, offensiveness of breath, the scaphoid abdomen, and changes in respiratory rhythm.

Headache, motor and sensory irritations, and palsies occurred in all the cases. In a few, the headache was distinctly intermitting. The spasms and palsies of groups of muscles were irregular in respective cases, as to order or frequency. Hourly change in the state of the muscles was common, and the same may be said regarding sensation. Not only does this apply to alterations of function of spinal, but also of cerebral nerves. Convulsions (partial, unilateral, or general), delirium, and coma were present at the usual period, but presented no peculiar feature.

Special senses: Total blindness was observed in one case; impairment of vision in five; optic neuritis was recorded in three. The state of the pupils was not of special import — in one instance was there irregularity in size in the second stage. In the first stage they were not affected, save contracted in one instance, and fixed, in a dulated state, in another. Dilatation was the rule in the second stage. Nystagmus was observed in one case. Purulent conjunctivitis occurred in eight cases, in the second stage usually, and in two instances was unilateral. Ptosis was present only in one case.

In five instances local erythema and general flushings were noted. An urticaria-like rash was seen in three instances. In the later stages pallor or a bluish hue of the face was observed. A unilateral mottling of the extremities was observed. Emaciation was marked and persistent in the prolonged cases, nine in all. Fever was present in the first stage in seven cases; in the second, in nine; intermitting in type, often the irregular paroxysms. Hyperpyrexia was noted in one. The pulse was slow seven times in the first stage; irregular or intermitting in four. In the second stage it was usually quickened, small, rapid and feeble; twice, slow and irregular. It was never wiry or corded in either stage.

Vomiting occurred but three times in the first stage; once only in the premonitory stage, and once only in the final stage. Constipation was seldom observed — three times in the first, twice in the second stage. Diarrhœa was excessive once. Offensiveness of the breath was very frequent, and occurred chiefly in the last stage, but was so marked at first, also, in three cases, as to be noted. In the larger number of instances, (nine) the tongue was heavily coated. The scaphoid abdomen occurred at varying periods: once in the first stage, seven times in the second stage, while three times is recorded absent; twice there is on record. Respiratory symptoms: first stage, irregular or Cheyne-Stokes, four times, rapid twice, slow once. Second stage, Cheyne-Stokes twice, rapid six times.

Remissions of a decided character were noted twice; after the development of the most grave symptoms, a period of improvement led to hopes of recovery.

A CASE OF EXTRAORDINARY SEXUAL PRECOCITY.

THE Paris correspondent of the *British Medical Journal* (February 13), gives an account of a case published in the *Sémaine Médicale*, and observed by Dr. Mengus, of a little girl of twenty-three months, who menstruated regularly. The child was well formed and fully developed for her age. The menstrual flux proceeded from the genital organs; there was neither lesion, neoplasm, nor a foreign body to explain this. The hymeneal membrane was absent; examination could extend to the cervix uteri, which was excessively developed for a child of that age. After three days, the catamenial flow stopped, and reappeared six weeks later on. The child presented signs of puberty, which increased after the second menstruation; the breasts were as developed as in the mobile period; the pelvis presented the signs of commencing puberty, and the skin lost the satin-like surface peculiar to children, and presented the rougher one characteristic of puberty in young girls; loss of blood weakened the child at first, but a few tonics restored her normal condition; she continued to menstruate regularly and have perfect health; she is now three and a half years old, precocious and intelligent, and measures 1.15 mètres in height, the stature of a child of seven. Her brother presents all the symptoms of cretinism.

SUDDEN DEATH FROM HÆMORRHAGE INTO THE ABDOMINAL CAVITY DURING MENSTRUATION.

MR. EDMOND J. PENNY describes in the *British Medical Journal*, March 20, a case of death from the above cause. The patient, aged twenty-seven, had always enjoyed good health, and was the mother of two children. She was perfectly well until about seven one evening, when she complained of pain in the region of the stomach, which she attributed to the fact that she was menstruating at the time, and said she thought she would go to bed. She gradually grew worse, was extremely restless, complained of pain in her chest, and of difficulty of breathing; but refused to allow medical aid to be summoned, as she said she would be better in the morning.

Shortly before 4 A.M., her condition becoming more serious, medical attendance was requested; but the patient had already died during her husband's short absence.

A necropsy was made the following day. The body was well nourished. Rigor mortis was present. The surface was unusually blanched. There was well-marked blood-stains to be seen at the external genitals. The lungs were found to be healthy; the pleura was normal, and the pleural cavity contained its natural quantity of serum. The pericardium was natural, with the usual amount of fluid. The muscular tissue of the heart was healthy. The ventricles were contracted; there was a small clot of fibrin in the left ventricular cavity. The valves were healthy. After the thoracic visera were removed, the diaphragm was seen to bulge upwards in an unusual manner, particularly on the right side. On opening the abdominal cavity, a large quantity of dark fluid blood immediately escaped, and the whole of the right side of the abdominal cavity was found to be full of fluid and semi-coagulated blood; while the right iliac fossa was occupied by a tolerably firm clot, of the size of a fœtal head. The viscera were carefully removed and examined, and were found to be healthy, with no trace of lesion. The aorta and its principal branches were also minutely examined, and found to be everywhere healthy, nor could any lesion be discovered in the veins. On removing the large clot from the right iliac fossa, and tracing it onwards, it was found to lead to the right ovary; and a small but firm clot, at least an inch in length, was discovered attached to the outer surface of that organ. Two ruptured Graafian vesicles were also seen, to one of which an ovum was adherent; and, in the neighborhood of these, several small blood-vessels were found to be distended with clot, one of them being distinctly ruptured; and it was to this site that the clot above-mentioned was found to be adherent. The left ovary also showed signs of activity having taken place previously to death; and on its surface were seen small blood-vessels filled with clot, whilst an ovum was also attached to it. The uterus, which was not removed, appeared to be normal.

The occurrence of hæmorrhage into the abdominal cavity, due to the rupture of a Graafian follicle during menstruation, is undoubtedly rare; but it is notwithstanding, admitted by various writers on obstetrics, and notably Dr. Graily Hewitt. Hæmorrhage, in this case, evidently took place very slowly, occupying at least nine hours, while the quantity of blood extravasated was enormous. It seemed as if the whole body had been drained into the abdominal cavity.

SUICIDES IN GREAT BRITAIN.

Science gives an abstract of an interesting paper read before the Statistical Society, on February 17, by Dr. W. Ogle, on "Suicides in England and Wales in relation to Age, Sex, Season and Occupation." The proportion of suicides is 72 annually per million persons living. The suicide-rate increases rapidly until after middle life, but, in the more advanced periods, again diminishes. The maximum rate is in the 55–65 years period, when it reaches 251 per million. The male rate is far higher than the female, with the exception of the period between 15 and 20 years of age, when the female rate is slightly in advance. The occupations in which suicide-rates are lowest are those which imply rough manual labor, carried on mostly out of doors. The occupations with the highest suicide-rates are those which are sedentary, like the learned professions, and also such as notoriously lead to intemperance. As regards farmers, suicides nearly doubled in the two years 1879–80, when agricultural distress was most acute; and simultaneously with this rise in their suicide-rate, there was a corresponding rise in their registered bankruptcies. The amount of suicides varies with the seasons, forming a regular annual curve, of which the minimum is in December, and the maximum in June. The commonest method of suicide is hanging; then follow in order drowning, cutting or stabbing, poisoning, shooting. Women, however, select drowning before hanging, and poisoning before cutting or stabbing. Women take any poison indifferently; men choose painless and sure preparations. The choice of method is also affected by age, the young showing a comparative preference for drowning, poisoning and shooting; by occupation, men preferring the instruments of their trades; by season, drowning being avoided in cold months.

EXTRUSION OF FŒTAL MEMBRANES AT THE SEVENTH MONTH WITH SUBSEQUENT RETRACTION.

DR. F. E. CHATARD, JR., reported to the Baltimore Gynæcological Society (*New York Medical Journal*, April 3, 1886), a case of considerable rarity. He thus describes it:—"Mrs. B., was in her second pregnancy and up to March 7th, the thirty-third week, nothing unusual had occurred. On that date I was hurriedly summoned, and obtained from the husband the following data: That afternoon she had taken a walk of considerable length, and decidedly more than was her custom, and, as a result, she felt more than usually fatigued and complained of a sense of weight and fullness about the genitals. Her husband found a purplish mass protruding from the external genitals; he at once directed her to keep quiet in bed, and sent for me. I saw her about three hours after her walk, and, in making an examination, found, protruding from the vulva, a soft fluctuating tumor of about the size of a small chicken-egg. This could be traced by the finger within the vagina, and extended up to and within the external os uteri, which was dilated to about the size of a silver quarter-dollar. The tumor was nearly cylindrical in shape, moderately tense, with walls of about the thickness of the membranes at term, and its contents were perfectly fluid. There was no apparent uterine contraction or pain at the time of my visit, and the sensations complained of immediately after the walk had almost entirely disappeared. I directed her

to remain quiet in bed and, if labor pains came on, to check them with an anodyne mixture of chloral and morphine, as she was still six weeks from her expected date of confinement. At my visit the next morning I learned that the patient had passed a comfortable night, and had experienced no pains or uncomfortable feelings. The tumor had retracted so that the lower portion was about half-way between the os uteri and the external genitals. I directed continued rest in bed. On the third day I found the tumor projecting only slightly at the mouth of the womb, which was now contracted to about the size of a three-cent piece. On the fourth day the os had returned to its normal size and condition; and no membranes could be felt. The patient completed her term of pregnancy and was confined on April 11th; the labor was normal, the bag of waters forming as usual."

THE "ROYAL OPERATION."

The *Cincinnati Lancet and Clinic* has been making medico-historical researches into the times of *le Grand Monarque*. It tells us that Louis XIV, of France, was the friend and patron of physicians; especially well did he support Dr. François Felix. Louis started in young with numerous doses of clap; then he had small-pox, measles, pneumonia, dyspepsia, finally, to cap the climax, a perineal abscess and beautiful fistula in ano; then a carbuncle in the back of his neck, and chronic gout, then gravel, and finally died of a gangrene. All these evil afflictions kept his favorite doctor, Felix, busy. On November 18, 1686, at Fontainebleau, Dr. Felix operated on the king for fistula, in the presence of Madame de Maintenon and a few other friends. The cure was marvellous, and so was the pay, for Louis XIV presented his physician with a fee of $750,000 and a farm. During various illnesses, he paid Dr. Felix over five millions of dollars. The king having set the fashion of being operated on for fistula, most of the French nobility and the Parisian *demi monde* followed suit, and a brilliant historical writer of the period states that "the nobility, male and female, flocked to Dr. Felix at Versailles, and no matter whether suffering from fissures or from hæmorrhoids, presented their backsides to the surgeon, begging him to make a neat incision of the sphincter ani. More than thirty court ladies left in tears when they discovered they owned no real fistula." The operation in those days was called the "royal operation," and Dr. Felix reaped a harvest.

SHALL THERE BE LIBERTY OF DISCUSSION IN MEDICAL MEETINGS?

A CASE in which all physicians are interested is now under trial in the courts of Philadelphia. The facts, as explained by the *Philadelphia Medical Times*, are, briefly, these: Dr. Carl Seiler, several months ago, before the Alumni Association of the College of Pharmacy of this city, and within the hall of the College, delivered a lecture upon "Hay-Fever." After he had explained the modern views of the neurotic nature of the disease, he stated the fact that it was often excited by pollen from various plants, as well as by particles of dust in the air; and he pointed out the fact that in the treatment, all powders are therefore injurious, since they act as irritants to the inflamed mucous membrane. In impressing this point upon his audience, speaking extemporaneously, he condemned all powders for this reason, and told his audience not to use them. Among the examples which he mentioned, was a proprietary article in the form of a snuff, which had been advertised in Philadelphia as a "cure" for hay-fever. The professional experience of the lecturer, and his knowledge of the nature of the disease in question, he believed, enabled him to form, and qualified him to express, a positive opinion as to the dangers of a remedy of the kind indicated, when used in this highly objectionable manner.

For this statement, made before a medical audience (for pharmacy is a branch of medicine), Dr. Seiler has been prosecuted by the owner of the nostrum, who claims exemplary damages for injury to his business. If the case is decided in favor of the plaintiff in this case, medical men, as our contemporary remarks, may consider it as an intimation that the patent-medicine business has grown so powerful that it may now issue its mandates directly to the profession, and that hereafter, if proprietary medicines are mentioned at all in our discussions, it shall only be in terms of commendation, and with due respect.

A SUSPENSION OF DIAGNOSIS IN CASES OF PSEUDO-HERMAPHRODITISM.

ATTENTION of French writers on Forensic medicine has lately been occupied with pseudo-hermaphroditism, as an impediment to the declaration of the sex of a new-born child. It appears that in France the sex of a child must be declared within three days after its birth, and it cannot in the course of its life enjoy the rights of other than the declared sex, without an appeal to a legal tribunal. Garnier and Leblond have each contributed papers on this subject to *Annales d' Hygiène Publique*, Sér. 3, T. xiv., p. 285. (See also *Medical Record*, March 15). The authors point out the injustice of this law in cases of pseudo-hermaphrodites, who at puberty find themselves of a sex opposite to that which had been declared; and Garnier gives, by way of illustration, an account of a case which has recently come under his notice. Both authors strongly urge that, as there is sometimes much difficulty in correctly determining the sex at birth, it should be open to the accoucheur, in such cases, to report the sex as undetermined or doubtful, leaving the final declaration of a sex to a later and more favorable period.

COMMUNICATION OF TUBERCULOSIS THROUGH THE FOOD.

FISCHER (*Archiv. f. exper. Pathologie u. Pharmak.* January, 1886, *Practitioner*, March, 1886), has made a series of experiments on this subject on rabbits, with the result that he comes to the conclusion that such a method of the conveyance of the tuberculous poison is beyond all doubt. His experiments were made with beaten-up fresh lungs of rabbits which had died of tuberculosis, and later on with such lungs after putrefaction had commenced in them. From his first series, the results showed that after the animals had partaken only once of this material (3-8 ccm.), a typical tuberculosis of the intestinal mucous membrane, of

the mesenteric glands, and liver was developed within a period varying from six to eight and one-third weeks. The spleen, omentum, kidneys, pleura and peritoneum were, on the contrary, never found affected, the part chiefly involved being the intestinal mucous membrane, the extent of this depending on the duration of the experiment and the richness of the tuberculous material in bacilli.

Falk had previously shown that the digestive juices, contrary in this respect to their action on the anthrax bacilli, have little or no effect on the tubercle bacilli, neither killing them nor even weakening them, and Fischer has arrived at a similar conclusion. On the other hand, putrefaction has a most distinct effect on the tuberculous poison; on feeding the animals with putrefactive tuberculous material, either no changes at all were found, or they were slight and limited for the most part to the mesenteric glands and vermiform process, and as the number of the bacilli in such material was in no way diminished, the difference in the action could only be ascribed to a weakening of the pathogenic activity of the organisms, brought about by prolonged contact with putrefactive organic substances.

REPORTED MORTALITY FOR THE WEEK ENDING APRIL 3, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Whoopi'g Cough.	Diphtheria and Croup.	Typhoid Fever.
New York	1,439,039	726	257	13.72	14.26	13.08	3.64	1.82
Philadelphia	971,363	460	160	10.78	—	.22	4.40	1.32
Brooklyn	690,000	277	99	14.74	10.44	2.16	5.76	5.04
Chicago	630,000	—	—	—	—	—	—	—
Boston	390,406	183	53	8.15	17.05	.31	2.48	.62
Baltimore	417,220	198	78	10.71	16.83	.51	.51	—
St. Louis	400,000	—	—	—	—	—	—	—
Cincinnati	325,000	106	38	6.58	23.50	—	1.98	—
New Orleans	238,000	94	38	8.48	10.60	1.06	1.06	—
Buffalo	202,818	—	—	—	—	—	—	—
District of Columbia	205,000	84	31	13.09	15.47	2.38	2.38	—
Pittsburgh	190,000	—	—	—	—	—	—	—
Milwaukee	—	—	—	—	—	—	—	—
Providence	118,070	—	—	—	—	—	—	—
New Haven	78,000	—	—	—	—	—	—	—
Nashville	60,000	22	6	13.65	27.30	—	9.10	—
Charleston	60,145	26	11	23.10	7.70	15.40	3.85	—
Worcester	68,383	30	8	16.66	10.00	3.33	10.00	—
Lowell	64,051	35	13	20.00	8.58	—	20.00	—
Cambridge	59,660	30	9	13.33	16.66	—	6.66	3.33
Fall River	56,863	23	10	13.05	21.75	—	8.70	—
Lynn	45,861	23	8	8.70	17.40	—	—	—
Lawrence	38,825	9	0	—	44.44	—	—	—
Springfield	37,577	22	10	18.20	4.55	—	—	4.55
New Bedford	33,393	19	5	10.52	5.26	—	—	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	12	2	—	—	—	—	—
Holyoke	27,894	6	1	16.66	—	—	—	16.66
Chelsea	25,709	7	2	14.28	—	14.28	—	—
Taunton	23,674	6	1	—	16.66	—	—	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	7	3	—	28.56	—	—	—
Brockton	20,783	4	3	25.00	25.00	—	—	25.00
Newton	19,759	10	2	30.00	—	—	—	20.00
Malden	16,407	8	3	—	25.00	—	—	—
Fitchburg	15,375	2	0	—	—	—	—	—
Waltham	14,609	5	2	20.00	20.00	—	—	—
Newburyport	13,716	3	1	33.33	—	—	33.33	—
Northampton	12,896	1	1	—	—	—	—	—
90 Massachusetts Towns	—	45	9	6.66	22.22	—	4.44	2.22

Deaths reported 2,483: under five years of age 864; principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 293, consumption 301, lung diseases 374, diphtheria and croup 102, whooping-cough 30, scarlet fever 42, diarrhœal diseases 20, malarial fever 24, typhoid fever 22, erysipelas 20, cerebro-spinal meningitis 13, measles seven, puerperal fever five, small-pox four, typhus fever one. From diarrhœal diseases, New York 12, Philadelphia and Boston three each, Brooklyn, Baltimore and District of Columbia two each, Cincinnati, New Orleans, Cambridge, Lynn and Springfield, one each. From malarial fever, New York 12, New Orleans four, Baltimore three, Philadelphia and Brooklyn two each, District of Columbia one. From typhoid fever, Philadelphia six, New York five, New Bedford two, Brooklyn, Boston, Cincinnati, District of Columbia, Nashville, Lynn, Springfield, Newton and Waltham one each. From erysipelas, New York eight, Philadelphia seven, Brooklyn two, Boston, Cincinnati and Springfield one each. From cerebro-spinal meningitis, New York four, Philadelphia and Cincinnati two each, Baltimore, District of Columbia, Nashville, Worcester and Fall River one each. From measles, Baltimore five, New York and Brooklyn one each. From small-pox, New York four. From typhus fever, Philadelphia one.

In 108 cities and towns of Massachusetts, with a population of 1,262,875 (population of the State 1,941,465), the total death-rate for the week was 18.28 against 19.29 and 18.54 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending March 20th the death-rate was 29.3. Deaths reported 5,101: infants under one year of age 1,024; acute diseases of the respiratory organs (London) 917, whooping-cough 195, measles 103, diarrhœa 44, scarlet fever 32, fever 32, diphtheria 20, small-pox (Blackburn) one.

The death-rates ranged from 18.7 in Norwich; to 39.6 in Blackburn; Birkenhead 22.4; Birmingham 25.5; Hull 26.7; Leeds 20.9; Leicester 21.3; Liverpool 36.0; London 30.3; Manchester 35.7; Nottingham 27.1; Sheffield 23.8; Sunderland 22.5.

In Edinburgh 24.0; Glasgow 34.0; Dublin 40.5.

For the week ending March 20th in the Swiss towns, there were 55 deaths from lung diseases, consumption 53, small-pox nine, whooping-cough, diarrhœal diseases, diphtheria and croup each seven, measles and puerperal fever one each.

The death-rates were: at Zurich 20.9; Geneva 19.2; Basle 17.8; Berne 36.4.

The meteorological record for week ending April 3, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps. —

Week ending Saturday, Mar. 27, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,...28	30.364	36.5	40.9	32.3	92.0	73.0	84.6	83.0	N.E.	S.E.	S.W.	10	10	2	O.	F.	C.	—	—
Monday,..29	30.429	37.7	40.1	31.9	83.0	81.0	100.0	88.0	E.	S.E.	E.	11	22	13	C.	O.	R.	—	—
Tuesday,..30	30.078	38.0	40.5	36.6	95.0	95.0	96.0	95.3	N.E.	S.E.	S.E.	12	14	4	O.	R.	G.	—	—
Wednes., 31	29.959	54.6	64.5	37.2	100.0	86.0	86.0	90.7	N.E.	S.	S.	2	24	24	G.	O.	T.	—	—
Thursday, 1	29.804	49.6	61.2	42.5	80.0	39.0	73.0	64.0	S.	S.	S.W.	20	18	10	O.	O.	C.	—	—
Friday, ... 2	29.973	45.1	58.2	38.3	75.0	38.0	53.0	55.3	S.W.	N.W.	W.	12	22	6	C.	C.	C.	—	—
Saturday,. 3	30.129	35.4	39.5	31.3	72.0	77.0	89.0	79.3	N.W.	N.	N.	5	9	3	N.	N.	C.	50	0.77
Mean, the Week.	30.105	42.4	49.2	35.7				79.4											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM APRIL 3, 1886, TO APRIL 9, 1886.

HARTSUFF, ALBERT, major and surgeon. Granted leave of absence for fifteen days. S. O. 71, Department East, April 7, 1886.

MCELDERRY, HENRY, major and surgeon. Ordered for duty as post surgeon, Fort Wayne, Mich. S. O. 69 Department East, April 2, 1886.

MERRILL, JAMES C., captain and assistant surgeon. Granted leave of absence for three months. S. O. 81, A. G. O., April 7, 1886.

BIART, VICTOR, captain and assistant surgeon. Sick leave of absence further extended one year on account of sickness. S. O. 79, A. G. O. April 5, 1886.

JOHNSON, RICHARD W., assistant surgeon. Relieved from duty at Fort Buford, D. T., and ordered for duty (temporary) at Fort Snelling, Minn. S. O. 28, Department of Dakota, March 29, 1886.

ROBERTSON, R. L., assistant surgeon. On expiration of his present leave of absence, will be relieved from duty in Department of Texas and will report in person to commanding general Department of Dakota, for assignment to duty. S. O. Department Dakota, April 3, 1886.

LAUDERDALE, JNO. V., captain and assistant surgeon. From Department of Dakota to Department of Texas.

ADAIR, GEO. W., captain and assistant surgeon. From Department of Dakota to Department East.

FINLEY, JAS A., captain and assistant surgeon. From Department of Texas to Department of Dakota.

KILBOURNE, H. S., captain and assistant surgeon. From Department of Dakota to Department of Columbia.

GARDNER, E. F., captain and assistant surgeon. From Department of Columbia to Department East.

GRAY, WM. W., captain and assistant surgeon. From Department East to Department of Dakota.

BANISTER, J. M., captain and assistant surgeon. From Department East (upon the expiration of his present leave of absence) to Department of Columbia.

CARTER, E. C., first lieutenant and assistant surgeon. From Department of Arizona to Columbus Barracks, Ohio.

JOHNSON, R. W., first lieutenant and assistant surgeon. From Department of Dakota to Department East.

WILSON, GEO. F., first lieutenant and assistant surgeon. From Department of Columbia to Department Dakota. S. O. 79, A. G. O., April 5, 1886.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING APRIL 10, 1886.

DRAKE, N. H., passed assistant surgeon. Detached from duty at Naval Hospital, Philadelphia, Penn, and ordered to duty at Naval Hospital, Brooklyn, N. Y.

FITTS, H. B., passed assistant surgeon. Detached from duty at Naval Hospital, Brooklyn, N. Y., and ordered to duty at Naval Hospital, Philadelphia, Penn.

ANDERSON, FRANK, passed assistant surgeon. Detached from Naval Laboratory, New York, and granted six months' leave from May 1, 1886, with the privilege of going abroad.

SOCIETY NOTICES.

SUFFOLK DISTRICT MEDICAL SOCIETY. SURGICAL SECTION. — There will be an extra meeting of the Section at 19 Boylston Place, on Monday evening, April 19th, at 8 o'clock. Communications: Dr. John Homans, "A Successful Case of Laparotomy for Perityphlitic Abscess, with exhibition of Patient." Dr. J. J. Putnam will demonstrate a case of recovery after late suture of the musculo spiral nerve, with a few remarks. Dr. H. W. Cushing will exhibit a case of resection of the elbow-joint showing the result of the operation after four years.

S. J. MIXTER, M.D., *Secretary.*

SUFFOLK DISTRICT MEDICAL SOCIETY. OBSTETRIC AND GYNÆCOLOGICAL SECTION. — There will be a meeting of this Section at the large Medical Library Room, 19 Boylston Place, on Wednesday evening, April 21st, at 8 o'clock. Communications: Dr. S. W. Driver, "Obstetric Gleanings; or Expedients and Mistakes." Dr. Charles Sedgwick Minot, "The Actual as compared with the Supposed Structure of the Placenta." Dr. E. W. Cushing will show a Liomyoma, or Uterine Fibroid. Refreshments after the meeting.

JAMES R. CHADWICK, M.D., *Chairman.*

ROBERT B. DIXON, M.D., *Secretary.*

MIDDLESEX SOUTH DISTRICT MEDICAL SOCIETY. — The Annual Meeting will be held in Social Union Hall, 15 Brattle Street, Cambridge, on Wednesday, April 21, 1886, at 12 o'clock. The annual address will be delivered at 1 o'clock P.M., by Dr. A. F. Holt, of Cambridgeport. Dinner will be served at 2 o'clock P.M., after which the Society is invited to visit the Cambridge Hospital which will be shown by the kindness of Dr. M. Wyman. The Censors of the Society will meet at the same place at 11.30 A.M. of the same day to consider applications for admission to the Massachusetts Medical Society. Members wishing to go as delegates to the meeting of the American Medical Association, May 4th, at St. Louis, may give their names to the President or Secretary. WALTER ELA, *Secretary.*

PRELIMINARY NOTICE.

NEW YORK STATE MEDICAL ASSOCIATION. FIFTH DISTRICT BRANCH. — The Fourth Special meeting of the Fifth District Branch will be held in Kingston on Tuesday, June 15th, 1886. All Fellows are cordially invited to contribute to the meeting, either by reading papers, notes or communications, or by exhibiting specimens. The Secretary will be glad to receive the title of any proposed paper as early as convenient.

J. G. PORTEOUS, M.D., *President.*

E. H. SQUIBB, *Secretary*, P. O. Box 94.

DEATHS.

In Sudbury, Levi Goodenough, M.D., M.M.S.S., aged eighty-two years.

Died on the 11th inst., in Brandon, Vt., of apoplexy, Anderson Dana Dyer, M.D., M.M.S.S. aged twenty-seven years.

BOOKS AND PAMPHLETS RECEIVED.

A Brief Synopsis of the Various Points involved in the Coarse Examination of the Brain and Spinal Cord. By Francis X. Dercum, M.D., Pathologist to State Hospital for the Insane at Norristown; Instructor in Nervous Diseases. University of Pennsylvania, Pathological Laboratory, State Hospital for the Insane, Norristown, Pa.

Hawes's Physician's Record. Entered according to Act of Congress in the Year 1886.

Original Articles.

A CASE OF ALCOHOLIC PARALYSIS PRECEDED AND ACCOMPANIED BY AMBLYOPIA EX ABUSU, WITH REMARKS THEREON.[1]

BY MYLES STANDISH, M.D., OF BOSTON.

On Sept. 22d, 1884, I was consulted by a gentleman, fifty-two years of age. He was above medium height, of heavy frame and by profession a practising physician. Patient reported that he had never experienced any severe illness in his life except an attack of acute rheumatism at sixteen years of age. He never had syphilis, he had experienced several epileptiform convulsions in his life occurring at long intervals. The last one was in the spring of 1882. That he had used alcohol for many years daily, that he had used both alcohol and tobacco to excess, but that of late he had smoked less and drank more. For three months his vision had been failing until it appeared to him that he walked continually in a thick fog. Upon examination I found that his vision had fallen to 0.1 in each eye, and could not be improved by glasses. There was no astigmatism. Color vision was perfect except for a slight hesitancy on a very light green. The field of vision in each eye remained at nearly normal limits both for form and for colors. There was a distinct central color scotoma for green in each eye with a somewhat imperfect one for red. Upon an ophthalmascopic examination the nerve was seen to be congested but the fundus was otherwise normal. A diagnosis of amblyopia ex abusu was made and the patient was warned, that, unless he stopped the use of alcohol and tobacco absolutely, he stood in danger of blindness. Abstinence was advised and pil. strych. sulph. gr. 1-32 was ordered twice daily. I requested him to report to me from time to time.

I saw nothing farther of the patient until the 9th day of April, 1885, somewhat more than six months later, when I was called to see him in consultation with Dr. J. A. Dow; I was then told that he had abstained from alcohol and tobacco for a week after consulting me in September, and then returned to his former habits with even more devotion than before. His vision had steadily failed, until he could barely distinguish figures on the street. His walk had become peculiar and unsteady at all times. That recently, when he came in, he had complained of great fatigue and seemed quite exhausted. He sometimes on such occasions complained of rheumatic pains in his feet and legs. He had, however, continued to walk out to a friend's place of business and back, about three-fourths of a mile, every day until April 1st. On that day he came home reeling from side to side and experienced great difficulty in getting up the steps to his door, indeed, he only did so by helping himself with his hands, grasping posts, etc. He was not intoxicated. Soon after his return home, he said he was perfectly blind. During the night he appeared quite ill and had delusions. He thought that he had been called to see a patient and must go out. When his family tried to restrain him, he became very violent. The next morning his vision was so poor that he could not distinguish even large objects before him. His delusions for the next four or five days were very marked. He thought that he was in the home of his childhood with his father and mother (both of whom are dead) and constantly tried to escape in order to return to his own house. Although violent if restrained, yet, if he was not supported, he would fall after half a dozen steps from the bedside. Sleep was only obtained by the use of liberal doses of bromidia. When I saw him, he was constantly talking to the people of his father's household, whom he supposed to be about him.

Nevertheless, when I spoke to him and told him who I was, he talked rationally and described his sensations clearly. He made much complaint of a coldness with occasional burning sensations in the feet and legs combined with great hyperæsthesia. There were no anæsthetic areas. He walked with a little assistance, but feebly and clumsily, and turned with some difficulty. He stood with his eyes shut without reeling. There was complete absence of the patella tendon reflex. There was no incontinence of urine or fæces or girdle sensations about the thighs or waist at this or any subsequent period. He buttoned and unbuttoned his clothing quickly and easily. His appetite was good. The examination of the eyes showed no paresis of the palpebral or ocular muscles. Vision equalled bare perception of light. The pupils were large and regular, and contracted very slightly and sluggishly to light. The reaction to light fully corresponded to the amount of perception present. There was pronounced gray-blue atrophy of both optic discs with the calibre of the vessels decidedly diminished. The fundus was otherwise normal.

On the 16th of April, at his earnest solicitation, he was allowed to smoke a couple of pipes full of tobacco, and when I saw him on the evening of that day, in company with Dr. Dow, the pupils were widely dilated and failed absolutely to react to light. There was no perception of light even when cast into the eye by means of a powerful condensing lens.

On May 1st, I found him complaining bitterly of the hyperæsthesia of his legs and feet. He could not sit up in bed or arise from a chair except by the use of his hands. If left standing unassisted, he stood tolerably firmly for a few moments, then abruptly fell, not forward or sideways with a reeling motion, but directly downwards, as if he had suddenly relaxed all the muscles of the legs. His mental condition was much more disturbed and he failed to recognize the members of his own family. His speech was somewhat thick. The perception and projection of light had returned and the pupil reacted slightly. I may say here in passing that afterwards he was indulged on one occasion to the extent of allowing him to smoke once more, and that he again lost perception of light, which subsequently returned.

On May 9th, his mind was somewhat clearer. He still had delusions: that he had been out during the day attending to his patients, visiting his friends, etc. This particular delusion was quite constantly present for a number of weeks subsequently, and has been described by Dreschfeld as a very constant peculiarity of this disease. His speech was much clearer. He still suffered much from restlessness and insomnia. His legs were much wasted and the measurement about the greatest diameter of the left calf was only fourteen inches. The hyperæsthesia was very great. He shrank away when any person approached the bed for fear that his feet or legs would be touched. The painful sensations were very much increased by deep pressure and were greater in the left leg than in the

[1] Read before the Cambridge Medical Improvement Society, March 22, 1886.

right. His arms were not diminished in size and the power was but slightly diminished and that only in the left. The left arm and hand were slightly hyperæsthetic accompanied by lack of sensation in the tips of the fingers of the left hand. His pupils were only moderately dilated and reacted promptly to light. Vision equalled fingers at 60 cm. The intra-ocular appearance remained the same.

On May 15th, he was mentally in a much better condition and recognized me. His delusions were still prominent and he related to me on this, as often on subsequent occasions, the particulars of the cases he had attended throughout the day. He was quite helpless and unable to attend to his slightest want; he could not even feed himself. The pain upon deep pressure or voluntary movements was now marked in both arms and legs, but very much less in the right arm than in the other limbs. The pain caused by the examination was extreme. He no longer moved his left arm, always lifting it with the right hand in order to avoid the pain caused by voluntary movements. There was marked impairment of the power of the right hand. He said that his legs and left arm had a strange sensation, as if there was a fluid under the skin. In examining for anæsthetic areas on this occasion I noticed a distinct delay in the transmission of sensation.

On the 6th of June our patient continued to complain of freezing and burning sensations in the limbs at intervals. He could not stand. He had lost power over the left arm. He could only raise himself in bed by the aid of his right hand, and then only with the greatest labor. He could cross the left leg over the right only with extreme difficulty. The measurement about the calf of the left leg was twelve inches and that of the right leg twelve and one-half inches.

On June 22d, I found him much improved and his mental condition was good, except that his memory of events happening from day to day was very poor. The extreme sensitiveness of the legs had given place to a tingling sensation, which gave much discomfort. Pain could only be produced upon deep pressure. He could stand with a little assistance. The leg measurements were each one-half inch less than at the last observation. There was a marked increase of power in the right hand. He could raise the left hand as high as his head without assistance from the right. There were still several points near the axilla on the left arm, that were very painful to the touch. Voluntary movements of the left arm also caused pain. Vision 3-200, intra-ocular appearances the same.

From this time forward he continued to improve, and on the 21st of July went down stairs, but was unable to return, as he could not lift his feet from one step to another. On that date pain on deep pressure had disappeared from both legs except from a tender point on the front of each ankle. The leg measurements had increased slightly to twelve and one-half and thirteen inches respectively.

In September our patient was able to walk up stairs for the first time. At the present date, March 18th, 1886, he is somewhat forgetful concerning passing events. He can walk up and down stairs without effort and easily rise from a sitting posture. The measurement about the calf of the left leg at its greatest diameter is thirteen and one-half inches, and about the right is fourteen inches.

The patella tendon reflex is still absent on both sides. All sensitive points have disappeared from the left arm, but he cannot completely close his left hand. The examination of the eyes reveals the following condition: vision equals 0.1, certainly a remarkable improvement. Vision for colors perfect. Fields of vision, of nearly normal size and containing no color scotomata. An ophthalmoscopic examination shows marked blue-gray atrophy of both optic discs with small vessels.

During his illness he had two epileptiform attacks, such as he had previously experienced, but they did not seem to have any influence upon the progress of the disease. His treatment with the exception of bromidia given in the early stages to produce sleep at night has been simply complete abstinence, rest, and iodide of potass. given in increasing doses until forty-five grains, three times daily, was reached. Whenever intolerance of the drug presented itself its exhibition was omitted for a week or ten days and then resumed.

This case certainly presents a group of symptoms striking in the extreme, motion, sensation, and mental condition are all affected, and in seeking for a lesion which could explain these facts, we naturally turn to the cerebro-spinal system. No brain lesion could explain them all as thus associated, and if we look to the spinal cord for the location of the lesions, which could produce at the same time the motor paralysis with atrophy of the muscles, and also abolish the patella tendon reflex, we should be obliged to suppose that there was present either acute myelitis or acute anterior poliomyelitis combined with locomotor ataxia, but many symptoms of these diseases are absent, such as the girdle sensations, the pareses of the sphincters, etc.

Moreover the particularly prominent group of subjective symptoms, namely, hyperæsthesia to touch and to passive motion, loss of tactile sensibility, sensations of heat and cold, pain on deep muscular pressure, delay in the transmission of sensations, suggests at once a multiple neuritis such as has been so well described by Leyden.[2] This disease is an affection of the peripheral nerves, which does not extend to the spinal cord. When we have a multiple neuritis due to the long-continued use or abuse of alcohol, we have added cerebral symptoms, and in our case we have a typical clinical description of the condition to which of late has been given the name of alcohol paralysis. This form of the disease differs from other cases of multiple neuritis. (1) The history of the abuse of alcohol. (2) It runs a less acute course and is less progressive. (3) The paralysis is more confined to the extensor muscles. (4) The cerebral symptoms. The peculiar delusion before mentioned occurs also in chronic alcoholism without paralysis. There is a return of the patella-tendon reflex in cases of recovery but it is very late.

Within the last three years eight different observers namely, Lauceraux,[3] Moeli,[4] Dèjèrine,[5] Broadbent,[6] Hun,[7] Strumpel,[8] Muller,[8] Dreschfeld,[9] have published reports of autopsies in cases of alcoholic paralysis. In every case the spinal cord was found to be normal

[2] Zeitschrift für Klin. Medicin. Vol. 1, p. 387.
[3] Gazette des Hopitaux, No. 46, 1883.
[4] Berlin Klin. Wochen. No. 14, 1884.
[5] Archiv. de Physiologie, No. 2, 1884.
[6] Royal Medical and Chir. Society, February 14, 1884.
[7] American Journal of Medical Sciences, April, 1885.
[8] Schultz in Neurol. Centralb., January, 1886.
[9] Brain, January, 1886.

and the peripheral nerves showed degenerative changes. In Dr. Hun's case the specimens of the peripheral nerves were unfortunately not preserved, but an examination of the brain revealed "a degeneration and atrophy of the nerve cells in the cerebral cortex, a congestion of the pia mater, and an effusion of serum into the sub-arachnoid space." From the above list it would appear that the pathology of the disease is well determined and consists of a degeneration of the peripheral nerve fibres and of the nerve cells of the cerebral cortex.

I have purposely omitted in the foregoing any consideration of the ocular symptoms of this case, as I wish to treat the subject in some detail. Amblyopia ex abusu is an affection rarely met with before the age of thirty years. The patient comes complaining of a gradually progressive loss of sight extending over several months until it appears to him, as if he now "walked in a continual fog." He can no longer read ordinary type. He thinks he can see better after dusk or in the house. Upon examination we find that his visual acuity is reduced to from 0.1 to 0.3 of normal vision. His vision is the same in each eye. His fields of vision for form and color are of normal size, but he has an oval central color scotoma for red and green covering about 20° horizontally and 10° perpendicularly as measured on the arc of a perimeter. This scotoma includes the macula and blind spot. Upon the examination of the eye-ground with the ophthalmascope we see nothing abnormal except perhaps a slight congestion of the disc. If the patient has delayed somewhat longer before seeking advice, we shall find the discs markedly white, especially the temporal half; or if the case is one of considerable duration, the whole disc will be blue-white and present the ordinary appearance of atrophy optici. This loss of vision although accompanied by whiteness of the nerve, differs materially from the atrophy occurring in ataxic, cerebral, and glaucomatous disease, as well as from that of hysterical amblyopia; for in amblyopia ex abusu although the central vision is much impaired, the fields both for form and color are good; while in other forms of atrophy, on the contrary the field for form is much diminished and the color fields are greatly contracted, or even color sense itself, especially for red and green, may be absolutely wanting before the centric vision is lost to any very considerable extent. A patient coming with these symptoms will report that he has used tobacco steadily and excessively for many years, or what is much more common, that he has used tobacco constantly but not excessively, and drank spirits daily to a considerable extent for a long time. I have repeatedly seen patients with this complaint, who drank spirits continuously, but who did not use over two ounces of tobacco per week. If such a patient can be induced to stop his tobacco and alcohol entirely, he is certain to recover his vision. The vision does not perhaps return to normal acuity, but 0.7 to 0.8 is recovered. This is the disease that is commonly called tobacco amblyopia. Much has been written to prove that tobacco, and tobacco alone, is the cause of this trouble. The English writers as a rule have followed Hutchinson, who first described the disease, attributed it to tobacco, and gave it the name generally accepted. von Græfe, Sichel, Galezowski, and others, have maintained that alcohol bore a part in the production of a majority of these cases. Hirschberg [10] says that there is a centric amblyopia, that is produced by alcohol, and quotes Brudend Carter as saying that this affection was rarely or never met with among the Turks, who notoriously smoke excessively. He does not speak of it, yet it is a fact, that the Turks as a nation, are very moderate in the use of spirits.

[10] British Medical Journal, November 22, 1879.

I have compiled all the reported cases, in which there is a record of the use of alcohol. I have not included in my list any cases, in which there is no record of the examination of the field of vision or of the existence of a central scotoma; the result is as follows:

	Number of Cases.	Used Alcohol.	Used Tobacco.	No Record.	Teetotalers.
Nettleship [11] .	26	26	26	0	0
Shear [12] . . .	40	38	40	0	2
Hartridge [13] . .	20	16	20	3	1
Morton [14] . . .	1	0	1	0	1
Webster [15] . .	20	19	20	0	1
Totals . . .	107	99	107	3	5

From which summary it will be seen that, out of a total of one hundred and seven cases, there were only five teetotalers, ninety-nine are recorded as using alcohol to a greater or less extent, and in three cases there is no record.

Nettleship, in commenting upon his cases, says that alcohol is a predisposing cause. This, I think, may be accepted as a fact, and to this I would add that the greater the abuse of alcohol, the less the quantity of tobacco necessary to produce the toxic effect. As alcohol is at least such a powerful adjuvant in the production of this disease of the eyes, I prefer to call it amblyopia ex abusu, and it does not seem strange to find this condition co-existent with alcohol paralysis.

For the purpose of determining whether such an association may not often be the case, I have collated all the published cases of undoubted alcohol paralysis with especial reference to their eye symptoms. I find the total number of cases reported to be fourty-four, as follows:

Glynn [16] four, Fischer [17] two, Kruche [18] seventeen, Dèjèrine [19] two, Hun [20] two, Dreschfeld [21] eight, Moeli [22] two, and Strumpel [23], Muller [23], Schultz [23], Lowenfeld [24], Lilienfeld [23], Myrtle [25], Broadbent [26], one each. In none of these cases is there any record of the amount of vision, either centric or peripheric, but there cannot be deduced from this a conclusion that it was not often, and even seriously, impaired, for a sick person can easily lose a very large proportion of his acuity of sight without noticing it.

In consequence of this non-examination of vision, we must depend for our evidence upon the recorded results of the ophthalmoscopic examinations and upon observed abnormalities of the pupil. The total number of cases reported is forty-four. An examination

[11] St. Thomas Hospital Reports, 1878.
[12] British Medical Journal, June 21, 1884.
[13] British Medical Journal, January 20, 1886.
[14] Shears in British Medical Journal, June 21, 1884.
[15] Medical Record, 1880.
[16] Liverpool Med. Chir. Journal, July, 1883.
[17] Archiv. Psychiatrie u. Nervenkrank. Vol. xii.
[18] Deutsche Medizinal Zeitung, September 8, 1884.
[19] Archiv. de Physiologie, No. 2, 1884.
[20] American Journal of Medical Sciences, April, 1885.
[21] Brain, July, 1884, and January, 1886.
[22] Charite Annalen, No. viii, 1883. Berl. Klin. Wocheuf, No. 14, 1885.
[23] Neurol. Centralb., No. 2, 1885.
[24] Archiv. Phychiatrie u. Nervenkrank, Vol. xv.
[25] British Medical Journal, August, 1882.
[26] Lancet, February 16, 1884.

of the fundus of the eye is noticed in twenty-three cases; of these, seven are recorded as having no change in the eye ground, ten as having congested discs, four as having white discs, and finally two cases, in which the temporal half of the disc was distinctly white. In all these cases there was no other intraocular abnormality recorded. All of these appearances would be explained, by the supposition that an amblyopia ex abusu existed. Moreover, the whitening of the temporal half of the disc is quite characteristic of this disease.

In addition to these cases in which there is a record of the condition of the fundus, three other cases are reported as having large pupils, which reacted slowly to light. Such a condition of the pupil is always present when the amblyopia has considerably advanced. From which it will be seen that although only fifty-two per cent. were carefully examined with reference to their eyes, forty-three per cent. of the total number present symptoms which at least suggest the presence of a toxic amblyopia.

There is one case recorded by Shears in his report of cases of tobacco amblyopia, which is extremely interesting in this connection, and is recorded in substance as follows:

The patient had a vision in each eye of 20-200. Discs pale on temporal half. Central scotomata. He almost ceased smoking but continued the use of alcohol. His vision did not improve in three months, while under observation. The patient subsequently had alcoholic paraplegia. This case is certainly entirely parallel with ours, and in connection with the suggestive statistics given above, would indicate that the acuity and fields of vision should be examined in every case of alcoholic paralysis.[27] It would be interesting also to know what proportion of these cases used tobacco. This association of a multiple peripheric neuritis, the pathology of which is known, with a toxic amblyopia, the pathology of which is unknown, as it never terminates fatally, is particularly interesting, and it does not seem improbable that the morbid processes may be identical. In both diseases the tendency of the disease is to recovery, if the use of the toxic agent or agents can be prohibited.

EDUCATION AND CARE OF THE IDIOT.[1]

BY ASBURY G. SMITH, M.D.,
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This paper will not aim at presenting any new feature of this work nor at exhausting any particular branch of it; idiocy, its care and treatment, has received the attention of scientific men for but little more than half a century, and when first it was noticed, it was with the greatest lack of sympathy and interest on the part of all but a very few. To-day but little is really known about it, even among the members of the medical profession, and hence the writer ventures to offer some general information.

The history of the work of educating idiots can be briefly told, for although idiots have existed from the earliest time, and likewise, kind-hearted and true mothers, who doubtless labored earnestly for the improvement of their defective offspring, yet of these cases we have no record, and the earliest account of any scientific attempt to ameliorate the condition of an idiotic person, is that which relates the efforts of Itard with the savage of the Aveyron, at the very beginning of the present century. Far back in the middle ages, the professional jester or court-fool had been sought from among the less defective of the feeble-minded; the hideously deformed and dwarfed had also been selected as prizes for the tyrants and rulers of that period. Fortunate were those who had a spark of wit or a grotesque deformity, by which to secure for them at least a certainty of freedom from want, while the less fortunate were a curse among the people and to themselves. They were neglected, and left to perish from want and exposure, and when houses of refuge and the like seemed to offer the much-needed shelter for the poor outcast idiot, it was sought by himself or his friends only to be found a place where cruel and abusive treatment made his life miserable, until death put an end to his existence.

It was not until after the reform in the care of the insane had begun, that idiocy received any attention, and not at all as a sequel of that reform.

The savage of the Aveyron had been found and brought to Paris as a scientific wonder; no one supposed him to be an idiot, but he became the subject of a good deal of scientific study. It was then universally admitted that the condition of idiocy could not be relieved. *Once an idiot, always an idiot.* Starting with a belief in this proposition, and not considering his strange pupil an idiot, Itard labored for several years to educate the savage, with results which convinced him that he had been dealing with an idiot, and that he had very much improved his condition, showing at once the prevalent belief in the improvability of idiocy to be false. This produced something of a sensation in scientific circles at the very beginning of this century, and the French Academy of Sciences made official mention of this savage, and his improvement under the care of Itard.

Notwithstanding this announcement, the matter slept for a score of years, and idiots still remained objects of the common people's hatred. The seed had been sown, however, and the history of this savage became the first recorded case of the amelioration of the condition of an idiot. Earlier scientific mention of idiots may be said to have been made by the great naturalist, Linnæus, who collected the histories of several similar cases, although he regarded them as a distinct species of the genus homo, and did not recognize what we now know to have been idiocy.

About the year 1827, observations were made on some idiots at the Bicêtre, who were noticed to improve intellectually while in the Hospital, and some zealous French physicians and psychologists set about the work of teaching these persons. In 1835, a school for idiots was established in Paris, the first in the world, and a few years later, more were organized in other countries.

About the same time, in 1842, observations were made in America, in the Blind Asylum in South Boston, by Dr. S. G. Howe, upon some feeble-minded children admitted to that institution unintentionally, and he became convinced of the plausibility of educating idiots in America, and at once became an enthusiast in the work. Further experiments and observations

[1] Read before the Boston Medico-Psychological Society, February 18, 1886.

[27] Since writing the above, Dr. G. L. Walton has related to me two cases of alcoholic multiple neuritis, which he had seen, and upon referring to his notes found in each case dimness of vision recorded as a symptom.

resulted in a few interested men bringing the matter before the Legislature of Massachusetts in the year 1846, and a commission was appointed to inquire into the condition of idiots in this Commonwealth. An experimental school was established and opened in October, 1848, which was the first attempt at State provision for the education of idiots in America. About the same time, Dr. Wilbur opened a private school at Barre, Mass. Thus began the work of educating the idiot in the old world and in the new, and from this inception, the work has rapidly grown both here and abroad, till to-day there are many large and prosperous institutions for the education of the feeble-minded. What was fifty years ago just beginning, is to-day a colossal enterprise, and idiots now receive an education adapted to their particular needs.

Everybody knows there are schools for idiots, but the most erroneous ideas about their work are prevalent. The three most common questions asked, are first, "can you really teach them anything?" to which an affirmative reply always brings out the second question, "what can you teach them?" and the third, "how do you teach these things?"

It should be borne in mind that there are different degrees of idiocy, and that success is obtained just in proportion to the degree. It is true, that because of the use of the term *idiot* indiscriminately, the improvability of idiots has been over-stated. There is a class of feeble-minded persons who have some intellect, which can be very largely developed by training, and because these are termed idiots alike with the lowest grades of the feeble-minded, the idea has sometimes prevailed that all idiots could be improved to the same extent. This is not so, yet all can be improved somewhat. Very many of the feeble-minded can be taught just as other children in the public schools, only not as much and not as rapidly.

The classifications which are recognized must be understood before going further. We may start out by saying, there is no sufficient scientific classification, and all methods now in use are purely arbitrary, and therefore faulty.

Under the generic term idiocy, may be included every degree of mental deficiency in youth, from the most profound state of idiocy or entire absence of mind, with or without perverted functions, and malformations of every sort, to the mere weak-minded individual who passes through life as a dullard, spoken of as "not quite bright" or a "little lacking," although it may be really difficult, if not impossible, to tell how much less of mind he has than some other individual more favored by circumstances and surroundings, whose deficiencies are less marked on that account, especially if they be not dependent on their own resources for a livelihood.

The task of dividing up these cases is a difficult one, because no sufficient scientific basis for a classification has yet been proposed. Not enough is known about the causation to form a complete classification on that basis; nor has there been sufficient pathological work done, to make a classification from lesions or abnormalities of the brain and nervous system. Clinically, there are no constant symptoms yet noted or arranged. I do not mean by this that no system of classification has been offered, for there have been different ones produced by different writers, but all are open to objection; it may be urged that no system of classification should be attacked unless a better one is substituted, but we mean to show simply that for every-day practical purposes, the systems proposed are of little or no use, and we are therefore narrowed down to the use of terms which merely describe the degree of deficiency in the individual; and here obviously great difficulties will be met with.

There is no unit or standard from which to make a start. The normal mind is so varied in its capacities and qualities that a standard cannot be taken, nor any test applied, which will place an individual on one side or the other of a line. In judging of the degree of deficiency, each observer will form his own divisions, and use his own terms, and will very likely use terms similar to those of some other observer, while referring to a different condition. All of the terms now in use are synonymous with idiocy, and are applied to different conditions arbitrarily by each man.

It is evident that we can divide all cases into congenital and acquired, or accidental cases; under the former, we should include not only those cases known to be defective from birth, but also those cases found to be defective when, at the school age, it is learned they cannot be taught as other children, and yet no cause can be assigned which may have resulted in an injury to the brain subsequent to birth; hence we may suppose they were born with a condition of brain which prevented normal development. Under the second class, would be included those in whom the deficiency can be directly attributed to, and dated from, an attack of convulsions, measles, scarlet fever, or vice, later in life, and the like.

The hydrocephalic, epileptic, paralytic, microcephalic, etc., may be classed by themselves only because the direct cause for the condition is apparent. But none of these terms are really descriptive of the mental condition.

The term *imbecile* is applied to cases born with a normal brain, but which have become idiotic after birth, and the term *idiot* to cases obviously born with that condition. Sentiment, well grounded, is leading to the disuse of the words idiotic and imbecile, and substituting for both the one term *feeble-minded*, which applies equally well to all cases, and is less objectionable to the friends of the afflicted.

Another class of the feeble-minded are sometimes called insane, but there are objections to the use of this term. The question may well be asked, can a person who has never been sane, be called insane, although he may present many of the characteristics of the insane. There are cases in which excitement occurs analogous to that of acute mania, and others where a fair degree of intellectual development exists, without any inhibitory power or judgment; this intellectual power may be therefore strangely perverted and simulate insanity; still the term insanity does not seem applicable. (Unless indeed we admit the doubtful theory that the mind exists in a normal condition in every idiot, but there is some defect in the relation between the mind and the body, which latter is only the medium through which the power of the mind is manifested.)

Cretins, of course, form a distinct class by themselves, but one not much considered in this country.

Any attempt so far at finding terms to express the degree of idiocy has failed of universal adoption, and we fall into the way of speaking of the idiot as of a low or high grade of intellect, with the use of any number of adjectives to express the distance on either

side of an imaginary, arbitrary line, that of the medium grade.

To go back to the questions so often asked, first, Can anything be done for the idiot? The emphatic answer is, Yes! Second, what can be done? This we cannot answer as quickly; it depends upon the grade of intellect of the child, that is, how far removed from the mental state of normal children. To begin with the higher grades of the feeble-minded; we can do for them the same things as are done for the children in the public schools, only taking more time and stopping far short of the normal child's capacity. We expect to do no more than to teach the child to read; enough to read simple stories, newspapers and the like; to write enough to read and write letters; a very little of local and general geography, and enough of arithmetic to count and reckon money; also to tell time; to know the days, weeks, months, seasons, etc.; and perhaps a very slight knowledge of the physiology of their own bodies. This can only be done in the best cases, but in addition to this intellectual training we may be able to accomplish much more by industrial education; the child can be taught to work; if a girl, domestic work, sewing and some fancy work; and if a boy, domestic work, farm work, and many simple occupations in the shop, like making brooms, seating chairs, repairing shoes, making mats, etc.

These are the things for which "the world is to give them a (whole or a part of a) living for knowing or doing," and in many cases it can be done. But there are cases less fortunate, those who cannot learn as much, and without being able to read or write, intellectually, they only improve in so far as to understand what is said to them, without being able to articulate themselves; but industriously they can learn to do much in the way of domestic duties, chores, etc. If, of a lower grade of intellect still, perhaps all that can be done, will be to teach the child better behavior, to attend to his natural wants, to feed, dress and bathe himself, and in many cases to amuse and occupy himself: in short to do enough to make himself less a burden to his friends. In the case of the lowest grade, the drivelling idiot, even less can be done. There is no intellect to develop, and perhaps none ever is awakened, or at most only a very few symptoms of intelligence may be shown, and here the education of course can only be that of attention to his own person to make known his natural wants, that he may be assisted, and in a measure to care for himself, also to induce a kind of instinctive or reflex habit or education. By this he becomes less an object of disgust and less a burden to his friends.

How is the idiot educated? It cannot come within the scope of this paper to do anything more than to allude to the general methods of teaching these persons. As already intimated, the higher grades are the same as the very dull or backward children in the public schools, and the methods of teaching are much the same as in the ordinary schools, except that more time is allowed; objects are associated with the lessons, and every aid possible given to assist the feeble memory to retain certain impressions with certain letters or words.

It may be made more clear how difficult this work is, and how much patience and persistence is required, by relating how in many cases the success is very satisfactory, if a child twelve or thirteen years of age has learned its alphabet after one year of hard work, and it is apparent from this that the learning is largely mechanical, hence it requires thereafter very much tact and skill to lead up the slow mind to the comprehension of an idea conveyed by a lesson. Training the child to work is sometimes done with the same difficulty, though not always. Judgment, however, can never be expected save in very few instances. In rare cases, proficiency in something seems to exist, chiefly, however, because of its great contrast with the other deficiencies.

For younger children and new beginners the Kindergarten system works admirably, and develops the mind to such an extent, that the child can be put into other rooms for more purely intellectual training. In the school rooms an important object of the teacher is to find methods to aid the memory of the child, and help it to call up ideas by the association of special sensations.

This may be illustrated by the method of teaching small words by color, as in the Kindergarten training. A child has learned its letters, and is attempting to learn the monosyllables, but cannot remember so much, the teacher prints on the black-board these words with different colored crayons and then puts them on a great many times in different places, but always the same word in the same color. After a time the child learns to recognize the word by noting the color, which he does for a long time until he fixes the shape of the letters in his mind, and then he will recognize the word anywhere in white chalk, or printed in black ink. By this method the memory is at first assisted by the color, and the children in many cases are found to learn more rapidly than when they are required to fix only the image of the letters without the additional aid of color.

In the lower grades all these things may fail and the methods used in teaching them will be worked into some sort of game, something to amuse them, and yet lead the mind in such a way that if possible it may retain some little idea. To detail more the methods of education would be to rehearse the routine of daily labor of the teachers and instructors engaged in the work.

In addition to the school work and industrial training, amusements, calisthenics, dances, health invigorating exercises, out-of-door sports, and music are employed largely in developing the children.

After all in the way of educating the feeble-minded is done, it must be remembered that the object is not to make them independent of protection, but to make them as far as possible self-sustaining and in some slight degree producers, but they must always be dependent, and hence can never be anything legally but minors; perhaps self-sustaining but not self-controlling.

Medical attention is of more importance in the lower grade cases than in the higher. As a rule in the higher grade cases, the physical system is in good condition and resembles more or less closely normal children, and here the principal efforts will be of a purely educational nature, while in the cases where little or no intellect exists, the ordinary educational efforts cease to be of value, and medical attention is obviously necessary not only to discover the physical weaknesses of the child and apply such remedies as may be appropriate, and to direct proper hygienic treatment, but also to recognize the defects of the child which may be remedied by physiological methods and to direct on the part of attendants and teachers attention to such

means as may lead to a development of reflex or instinctive powers. In the congenital cases of very low grade it is very probable that medical treatment can do nothing to relieve the abnormal conditions of the physical system and so far as intellect is concerned, it is often impossible to develop any, while reasoning power is always wanting. Yet if the organs of special sense are normal, either one or all, cases in which there are no spontaneous or reflex actions may be made to respond reflexively at least, and if nothing else is accomplished, we may succeed in controlling the various physiological functions of the child. The low grade cases may be taught more exclusively by physiological methods than others, and regularity in the habits and in feeding, sleeping, recreation, etc., all assist to this end. Medically too there is something to be done for the imbecile classes, and treatment may possibly lessen the aggravation from causes which operate to disturb and prevent development even when it cannot hope to remove it.

The physical illnesses which occur with these children are of course to be treated under the same and even more difficulties than the maladies of normal children. They often, not only cannot speak, or if they can, cannot tell where the pain is nor what it is; add to this the insensibility to pain which many have, and we then have a combination of difficulties quite troublesome.

Since the subject of provision for, and education of, the idiot is now before the Legislature of Massachusetts, it may be desirable to explain the existing organization of the Massachusetts School for the Feeble-minded.

This school was incorporated as an educational institution in 1851 for that class of defective children not provided for in any other way. The Commonwealth had already made laws providing for the education of the normal children in the public schools; it had also established a special school for the education of the blind, and provision had been made for the education of the deaf-mutes. Now another class of defective children had been shown to need a special school where training peculiarly adapted to their requirements could be given them, and this school was established to meet that end. It was something of an experiment for many years, although the practicability of educating the feeble-minded had been established beyond a doubt. The school has grown, of necessity, but sums have been very sparingly meted out to it by the Legislatures of successive years.

With the growing importance of all the charities of the country, philanthropists began to give attention to this work as a charity, and so far did this idea gain ground, that its educational character was partially lost sight of. This resulted in an entire change of law in 1883, when a law was passed making this school in effect a pauper institution, on a par with lunatic hospitals; more a retreat for idiots, less a school for them. A sum of $3.25 per week was allowed for each pupil to defray expenses of his support, and this constituted about the only income of the institution. It is obvious that on that sum difficulty would be experienced in a small institution in furnishing bare support, let alone the extra expense of maintaining schools, and all the corps of employés necessary for educational purposes.

Then, too, the overseers of the poor of the various towns and cities, men zealous for apparent economy in the pauper expenses of the towns often interfered and refused to support a child at the school, and in some instances the parents refused to have their children *educated* as *paupers*. This resulted in keeping away very many of the most improvable children, and pressing for admission many of those cases more custodial in character, as well as lowering the standard of the school.

For these reasons an attempt is being made to have the institution made dual in character. It is desired to have it primarily a school, and to have a secondary department for the care of custodial cases, the school department to be supported by the Commonwealth, by an annual appropriation, and the *custodial department* to receive reimbursement at the rate of $3.25 per week for each child from the place where settled, or from the Commonwealth if not settled.

When additional room shall be provided it will be possible to receive all the custodial cases now collecting in almshouses, asylums and other institutions which ought to be in a place especially adapted to them. This, too, will offer the needed protection for the many adult females, whose weakness of mind causes them especially to be subjects for the strictest protection to prevent the unnatural increase in the number of idiotic persons, which is certain to occur if this class is allowed their liberty.

REPORT ON THE PROGRESS OF DERMATOLOGY.

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TUBERCULOSA VERRUCOSA CUTIS.[1]

RIEHL and Paltauf describe, under the above name, a hitherto unrecognized form of cutaneous disease of uncommon occurrence. In persons of both sexes, but much more frequently in men than in women, there develop upon the dorsal surface of one or both hands, sometimes on the extensor surfaces of the fingers, or between them, and more rarely, upon the palmar surface of the hands, patches, which at first sight resemble strongly in appearance patches of lupus verrucosus or collections of warts, in a condition of inflammation. These patches vary in size from that of a pea to that of a thaler, are of rounded or oval shape, and sometimes, in consequence of the coalition of several lesions, present a border of serpiginous form. Increase in the size of these patches takes place always by reason of the development at their edges, of new efflorescences, while at the same time, retrograde changes may be going on in the central portions.

The outside edge of any patch which is in the process of active development, consists of an erythematous band several millimeters in width, which surrounds the older portion of the growth. The color of this band is bright red, and disappears entirely under pressure of the finger. Its surface is scarcely, if at all, elevated above the level of the skin, is smooth, and upon it, the orifices of the cutaneous follicles are plainly visible. Next to this zone, and on its inner side, there is another of a darker, brownish, or livid red, offering a marked contrast to the bright red of the extreme periphery.

The surface of this inner zone is covered with super-

[1] Vierteljahresschrift für Derm. und Syph., 1886, Heft. 1, s. 19.

ficial pustules of small size, which readily break, or with small crusts and scales of a rounded shape, which are the residue of such pustules. Under the pressure of the finger, the brownish-red color disappears, but there still remains a yellowish discoloration of the skin, and there is evident to the touch a certain amount of solid infiltration. The pathological changes in the skin become more marked towards the central portion of these patches. The surface is here elevated from two to five millimeters above the cutaneous level, and presents an irregular, nodulated appearance, and in the centre or oldest portion of the lesion, are apparent wart-like growths composed of rounded or more pointed protuberances. These papillary excrescences vary in size and are generally covered with scales and crusts, upon the removal of which the brownish-red color of the patch comes to view. Between these papillomata, which are thickly crowded together, are cracks, excoriations, and pustules, and pressure causes to exude from numerous small openings, plugs of inspissated pus. The openings of the cutaneous follicles are not to be made out, and with the above appearances, the pathological process reaches its highest phase of development. Retrograde changes now begin to take place in the central portion of these lesions, the papillary outgrowths become flatter, the minute abscesses disappear, and the surface becomes smooth and cicatricial in appearance.

The resulting cicatrix is superficial, thin and flexible, and presents the appearance of a fine network of glistening, white, cicatricial fibres, enclosing minute portions of hyperæmic skin, which have not been entirely destroyed. The pathological process always remains confined to the skin and does not extend to the subcutaneous tissues, and there is rarely any spontaneous manifestation of pain in connection with its development, the only subjective symptom being more or less sensitiveness to pressure. The subjects of this affection were all of them robust persons in good health, and of middle age, and the disease is chronic, lasting from two to fifteen years. The progress of the malady is not a continuous one, but long periods of complete repose alternate with shorter periods of renewed pathological activity. For the complete exhibition of the pathological process from its beginning to the period of its greatest development, one or two months are required, and after this, several months elapse before cicatricial changes take place. A noteworthy fact in connection with this disease is that each one of the fourteen cases which came under the observation of the writers, occurred in an individual whose occupation brought him into continual contact with domesticated animals.

The following is a list of the occupations and sex represented by the patients: butchers, 5 males; coachmen, 3 males; cooks, 3 females; wheelwright, 1 male; farmer, 1 male; stable-worker, 1 female.

The diagnosis of this affection is based upon the peculiar combination and successive development of the different pathological processes which combine to make up the complete picture of the disease, rather than upon any single characteristic. It is to be distinguished from lupus verrucosus, from ordinary inflammatory papillomata, and from the papillary excrescences which occasionally develop upon the basis furnished by syphilitic ulceration.

Histological examination shows the changes in the skin to consist of thickening and accumulation of the horny layer of the epidermis, above and between the papillæ of the skin, which are greatly hypertrophied and deformed, the picture presented resembling, in this respect, that seen in ichthyosis hystrix. The upper layers of the corium shows infiltration, not only with the suppurative products of ordinary inflammation, but also the presence of tubercles composed of granulation tissue, and containing giant cells and the bacillus of tuberculosis. In the purely inflammatory portions of the diseased region of skin were found numerous cocci, but no bacilli, and the latter were also absent in the portions of tubercle which had undergone cheesy degeneration. This pathological process is, therefore, to be regarded as a form of tuberculosis of the skin.

RÖTHELN, OR "GERMAN MEASLES."[2]

In a lecture before the Association for Internal Medicine in Berlin, in June, 1885, Dr. A. Klaatsch, after a review of the literature of the subject, describes this disease as observed by himself in two epidemics, the first of which occurred in 1861, the second in 1884–5. During the latter epidemic, he had had opportunity to observe forty instances of the disease, occurring in seventeen families, the majority of which cases had already had measles.

The manifestations of Rötheln are those of a mild disease, and the eruption appears, as a rule, without any prodromata. As is the case with all the exanthemata, the eruption may be of various grades of intensity, and every stage from the ill-defined and incomplete, to the well-marked and characteristic form of eruption, may be witnessed. In typical cases, the body is covered with highly-colored red spots, universally distributed. There are two different forms of eruptions. It may either be punctate in appearance, and resemble a collection of numerous small dots made with a pen dipped in red ink; or it may consist of larger spots of one-half to one centimeter in diameter, which are of lighter color in the centre than in the periphery. These maculæ are not circular in shape, like those which form the eruption of measles, but are nearly always possessed of a border, which is irregular and composed of projecting angles and indentations, which may be discerned, even when the eruption is very thickly distributed, and in such cases, also, the individual lesions are separated by skin of normal appearance. The author is unable to state with certainty whether the larger form of eruption is developed from the smaller, although, in some instances, such seemed to be the case. As a rule, the eruption is manifest over the whole body, from head to foot, being most marked, however, upon the face, the shoulders, the extensor surfaces of the arms, the lower part of the back, and on the buttocks. The color of the eruption is generally less vivid upon the lower than upon the upper part of the body. Sometimes portions of the body, such as the face, remain entirely untouched by the eruption, and occasionally it is grouped in an irregular and limited manner. One of the most striking instances of curious distribution of the eruption was the case of a boy, in which only the lower part of the body below the waist was affected. In another case, the eruption formed a red band around each thigh. Oftentimes, the skin between the individual lesions of the eruption is reddened by erythema, so that the whole skin is of a uniform red-

[2] Zeitschrift für Klin. Medecin, 1885, Band X, Heft. 1 and 2, s. 1.

ness, reminding one of scarlet fever. A coalition, however, of the individual lesions, such as takes place in measles, has not been observed by the writer. Occasionally, these maculæ are so thickly distributed that the whole cutaneous surface appears of the same red color, and it is only by pressure with the finger and the production of temporary anæmia, that the individual lesions may be detected, as the redness of the skin re-appears. Occasionally, minute pustules are developed upon the hyperæmic base furnished by the eruption. A hæmorrhagic variety of eruption, such as occurs in measles, has never been seen by the writer, but the eruption, however, if of an intense character, may leave behind it a yellowish discoloration of the skin, which lasts for some time. It is only in rare instances that the appearance of the eruption was accompanied by itching. The eruption follows the same course of development as that of measles, appearing first upon the head, and afterwards upon other parts of the body, but its spread takes place much more quickly than is the case in measles, often twelve hours, and rarely more than twenty-four hours, being sufficient time for its entire development. As a rule, lasting about three days, and in severe cases five days, its departure is as rapid as its appearance.

In about one-half the cases of the disease there was a rise of temperature rarely reaching 39° C., which made its appearance with the eruption and continued for one day only, while the general subjective feelings of the patients were in no way disturbed. As constant and accompanying symptoms, were observed injection of the conjunctiva, reddening of the pharynx and enlargement of the lymphatic glands. The expression of the eyes was peculiarly dim, but there was observed neither photophobia nor hypersecretion of tears. The redness of the pharynx was diffuse, not spotted as in measles, and was confined in its distribution to the back wall of the pharynx, the pillars of the fauces, the tonsils and the lower part of the soft palate. In no case was there observed any severe "sore throat" as a result of this reddening of the mucous membrane of the same. Almost characteristic of the disease was the well-marked enlargement of the cervical lymphatic glands and the lymphatic glands over the mastoid processes, which could be detected in every case without exception. A similar enlargement of the lymphatic glands has never been observed by the writer in connection with measles. In most of the cases of Rötheln, there was also moderate enlargement of the lymphatic glands in the axillæ and groins. This enlargement of the lymphatic glands, however, does not occur in all epidemics, since Thomas, who observed the disease very carefully, expressly states that he was unable to make out any enlargement of the lymphatic glands.

While the course of the disease occurring in children who have been previously in good health, is always a favorable one, a few cases of death were observed in children already sickly and debilitated from other causes. The writer considers the disease to be contagious but to a limited degree, since he has repeatedly observed instances where the disease was confined to one child of a family. The most marked expression of its contagiousness was furnished in a girl's boarding school. One of the scholars having been attacked, all the other inmates were sent home, and of these, eleven were attacked by the disease. The apparent incubation of the malady, as far as could be made out, varied from fourteen to twenty-two days. The disease was not confined to children, the writer having met with it eight times in persons of from eighteen to thirty-five years of age.

IDIOPATHIC MULTIPLE PIGMENTED SARCOMA OF THE SKIN.[3]

At a meeting of the Association of Physicians in Vienna, in October last, Kaposi presented an example of this disease and made the following remarks: The malady, of which twenty-five instances had come under his observation, all occurring in men of middle age, first shows itself simultaneously in both hands and both feet, oftener on their flexor than on their extensor surfaces and afterwards appears on the forearms, legs, upper arms, thighs, and finally on the face. Its first manifestations consist in nodules, varying in size from that of a small shot to that of a pea, of a bluish or brownish-red color, rounded in shape, moderately hard in consistence and situated in the corium. When these lesions appear in the palms of the hands and soles of the feet they may easily be mistaken for manifestations of syphilis. The disease may also begin with the development of more diffuse, discolored, cyanotic and hyperæmic maculæ which shortly become transformed into dense infiltrations of the corium, at first of smooth surface and afterward becoming nodulated in appearance. In this manner may ensue elevated, hard and irregularly nodulated patches varying in size from that of a cent to that of the palm of the hand. Both the individual nodules and those which have coalesced to form patches, may in the space of a few months, diminish in size, become depressed and finally disappear, leaving behind wrinkled cicatricial spots of a brownish pigmented or glistening white color. These patches of infiltration may also undergo atrophy in the central part, while at the same time the nodules in the periphery increase to the size of hazel-nuts.

During the course of the disease, which lasts for years, fresh tumors continually develop, the hands and feet become greatly deformed, the fingers thickened, stiff and spindle-shaped, while the skin is densely infiltrated, nodulated and atrophied in spots, hard like wood, and of a dark bluish-red color. From the first there is generally pain of a spontaneous nature in the extremities and great tenderness upon pressure, which may be severe enough to interfere with sleep and render locomotion impossible. After the lapse of years there appear fresh nodules in the arms and legs, nose, lips, and eyelids, which consist of succulent, soft, elastic, bluish-red, smooth tumors of various sizes, and which only in rare instances become hæmorrhagic and partially suppurate. Similar infiltrations also take place in the mucous membrane of the nose and give rise to frequently occurring hæmorrhages. In the few cases in which there has been an autopsy large numbers of similar nodules were found in the lungs, liver, spleen, kidneys, and more especially in the large intestine, where they are so rich in bloodvessels as to give the impression of being cavernous angiomas. The disease is always fatal, generally lasting from six to ten years.

PEMPHIGUS FOLIACEUS VEGETANS.[4]

At a meeting of the Society of Physicians in Vienna, held January 8th, 1886, Neumann made some remarks concerning the above affection. There is hardly a disease the result of which is so uniformly

[3] Wiener Med. Wochenschrift, No. 44, 1885.
[4] Allgemeine Wiener medizinische Zeitung, No. 2, 1886.

fatal as that of this variety of pemphigus. A small excoriated region in the armpit, one or two bullæ on the mucous membrane of the lips, even in persons of the most robust type, are sufficient in such cases to warrant the prognosis of a fatal termination of the disease in the course of a few months.

The clinical signs of the disease are as follows: The first cutaneous manifestations consist in bullæ about the size of peas, the epidermal covering of which is wrinkled and only becomes tense with increase of the subjacent exudation of fluid, which fluid is of a dull white color. Upon removal of the epidermal covering there is to be seen in the centre of the exposed excoriation a slight elevation which rapidly increases in size, so that in a short time, there are formed uneven, carunculated, wart-like growths, surrounded by a ring of excoriation, which in its turn, is surrounded by a zone of epidermis which has been lifted from its bed by the exudation of fluid. This process of sub-epidermal exudation spreads in serpentine curves from the excoriated region as a centre. From the surface of the above, red-colored, slightly elevated, and wart-like patches, is exuded a thin, badly-smelling fluid of alkaline reaction, which dries to a thin crust, the removal of which exposes an uneven surface partially covered by a thin, unstable film of epidermal detritus, and is, in part, excoriated. In this manner may be affected in women, the labia majora and minora, the mucous membrane of the mouth and lips, the skin of the axillæ, of the folds of the nates, the mucous membrane of the vagina and rectum. In the male, together with the mucous membrane of the mouth, the skin over the symphisis pubis and on the inner surface of the thighs are first attacked by the disease, which thus in the beginning bears some resemblance to eczema marginatum in its manner of distribution. As the disease advances there ensue in all parts of the body, excoriated regions covered with dirty yellowish exudation. The mucous membrane of the tongue, of the uvula, of the tonsils, of the pharynx and of the larynx become involved in the disease, so that the acts of deglutition and of respiration are painful. The patient breathes with open mouth and dreads the taking of nourishment. These bullæ may develop upon any part of the body, the tendency to the formation of papillary excrescences gradually diminishes, and finally, the process of the formation and extension of bullæ becomes the main feature of the disease. Toward the end of the malady the epidermis is cast off in large sheets from the surface of the skin, and the general appearance is that of a burn of the second degree. At this stage of the disease it is only the permanent water-bath which is capable of giving the patient any relief from his sufferings.

When the wart-like excrescences mentioned above are developed upon the mons veneris, the inner surfaces of the thighs and on the nates around the anus, it is apparent why such patients are often supposed to be suffering from syphilis and treated accordingly. For the differential diagnosis between the manifestations of this form of pemphigus and the mucous patches of syphilis, the following three points are to be borne in mind:

1. The character of the periphery of the growths. In pemphigus foliaceus these growths are always surrounded by a ring of epidermis which has been elevated from its bed by the exudation of fluid. Mucous patches, on the other hand, are surrounded by a sharply defined border of solid infiltration.

2. The loss of epidermis and epithelium from the surface of these growths peculiar to pemphigus foliaceus, is, so to speak, punctate or in spots, while in syphilitic condylomata the loss of epidermis and the covering of secretion which takes its place is evenly distributed over the surface of the lesion.

3. The course and symptoms of the disease in general. In the case of pemphigus foliaceus its lesions increase and multiply in spite of any treatment which may be directed against them.

Neumann described the nine cases of this disease which had come under his observation and the histological changes which were found to take place in the skin. The pathological changes affect principally the epidermis and the upper layer of the true skin, while the deeper portions of the skin, with the exception of the sweat glands are but slightly involved. In three of these nine cases, besides the high grade of marasmus which soon developed itself, there were also symptoms of myelitis, and in two of these three cases an autopsy confirmed the clinical diagnosis of myelitis. Neumann was disposed to regard the occurrence of myelitis as accidental and having no relation to the pathogenesis of the disease. This was also the opinion of Riehl and Kaposi, who took part in the discussion.

Hospital Practice and Clinical Memoranda.

AURAL CLINIC OF NEW YORK EYE AND EAR INFIRMARY.

SERVICE OF DR. SAMUEL SEXTON.

REPORTED BY DRS. W. A. BARTLETT AND C. J. COLLES.

ACUTE NON-SUPPURATIVE CATARRHAL INFLAMMATION OF THE MIDDLE EAR.

THE cases of acute catarrhal inflammation of the middle ear having a tendency to stop short of drumhead perforation are not of infrequent occurrence; the following, which have been selected from the records of some fifty cases of this kind recently treated, are typical examples as regards these symptoms and the results of treatment.

CASE I. *Inflammation of the atticus tympanicus; symptoms due to blowing the nose. Catarrh of the upper air tract. Decayed teeth giving rise to reflected neuralgia. Recovery in three days.*

Patient, male, aged fifty-three, tailor; "has head catarrh and is deaf in both ears." He has had frequent attacks of ear-catarrh with pain. After blowing his nose forcibly yesterday he experienced sudden pain in the right ear, followed by tinnitus and some increased hardness of hearing. He slept well, however, and there has been no discharge from the ear. On examination of right ear, the membrana flaccida, posterior fold and parts about short process are found hyperæmic. A number of vessels of the manubrial plexus are injected, their course being traced by delicate, fine thread-like lines, giving the whole an aborescent appearance. The membrana tympani of the left ear is lustreless, humid and somewhat retracted, with marked opacity in the posterior inferior segment. Patient hears ordinary voice only in both ears. There is catarrh of the upper air passages. The teeth are in a carious condition, a few old shells remaining.

Aconite and belladonna were administered in minute doses, repeated often. Patient next seen three days later when it was found that the vascularity had subsided, as had also the subjective symptoms.

CASE II. *Acute inflammation of the atticus tympanicus and atrium after sea-bathing. Recovery in six days.*

Male, aged fifteen. There is no history of previous ear trouble. Patient went in bathing twenty-four hours ago, diving frequently. He does not remember having snuffed up any water into his nose or mouth. A few hours afterwards he was seized with tinnitus and pain in left ear, the latter being so severe, as to entirely prevent sleep. There was also autophonous phenomena present, but no discharge. On examination of left ear, the membrana flaccida is found fleshy in appearance, partially detached and bulging considerably. The membrana tympani is uniformily hyperæmic and denuded, the surface being puckered and swollen. The right ear is unaffected. Hearing in right ear, normal; in left, ordinary voice only is distinguished.

Patient was treated with calx. sulph., gr. 1-50 every two hours, aconite and belladonna being given for the pain. The following day patient returned, stating that after taking three doses of the aconite and belladonna the pain had subsided, and that he had slept well for the first time in forty-eight hours. The membrana tympani presents no change in its condition. During the following forty-eight hours patient had some pain in the daytime but rested well at night after taking a few doses of the aconite and belladonna. On the sixth day the membrana tympani and membrana flaccida were found, on examination, to be clearing up. The pain had subsided and patient experienced no further trouble.

CASE III. *Acute catarrhal inflammation of atrium from "cold." Catarrh of upper air tract. Decayed teeth. Spontaneous recovery.*

Female, aged ten. Patient has long suffered from frequent attacks of otalgia in and about the right ear, not accompanied by tinnitus, deafness or discharge. After "taking cold" one week since, severe pain and tinnitus appeared in the right ear, continuing without intermission until the present time, and preventing sleep. No discharge, however, was noticed. On examination of right ear the membrana tympani is found denuded, bulging, and the landmarks are not visible. There is a crust of exfoliated epithelium lying in front of the drum-head. The membrana tympani of the left ear is somewhat clouded in its posterior segment, the anterior segment being brilliant in appearance. Hearing, right ear, loud voice; left ear, low voice; at ten feet distance.

The posterior wall of the pharynx is covered with adenoid vegetations and the tonsils are hypertrophied. Several shells of carious teeth retained in the upper and lower jaws, and an abundant accumulation of tartar, causing reflex irritation in the ear, would seem to account for the tendency to recurrent attacks of aural catarrh. She was advised to have the carious teeth removed. Four days later when again seen the exacerbation had subsided without having taken any medicine.

She was advised to have the fragments of the carious teeth and the tartar removed, as it was believed that she would then be much less liable to a recurrence of the aural trouble.

CASE IV. *Acute catarrhal inflammation of the atrium after sea-bathing. Exudation cyst of the drum-head (membrana vibrans). Chronic catarrh of the upper air-tract. Cured in seven days.*

Male, aged seventeen, epileptic. Patient is subject to frequent attacks of toothache and pain in the ears. Bathes very frequently in summer and indulges a good deal in diving and sporting in the water of the sea. During his last bath, two and a half weeks ago, he got "water in his right ear, and has not been able to get it out," (by the usual method of hopping on one foot.) There has been some tinnitus aurium and sensations of "gurgling, snapping, and sounds of bubbles" in the ear. No autophonous voice, deafness or discharge. During past twenty-four hours some pain in affected ear.

Examination of right ear. A large, oval, cyst-like swelling occupies the whole of the posterior segment of the membrana tympani. The surface has a dermic, lustrous appearance. Only a portion of the anterior quadrant can be seen. Left ear normal. Hearing, low voice in both ears.

In twenty-four hours pain subsided under the administration of aconite and belladonna. As the symptoms were not of an aggravated type, and as the cyst was not increasing in size, incision was delayed. On examination, forty-eight hours afterwards, the vesicle on the drum-head had disappeared, leaving the dermic tissue of the latter puckered in appearance. Aconite and belladonna discontinued. On the seventh day the subjective symptoms had subsided; the drum-head was seen on examination to be resuming its normal appearance. Patient discharged cured.

CASE V. *Acute catarrhal inflammation of atrium and attic. Odontalgia. Recovery in ten days.*

Female, aged forty. No previous ear trouble. Two weeks ago, after exposure and wetting of feet, contracted an acute catarrh of the upper air passages. In forty-eight hours was taken with pain in right ear accompanied by deafness and autophonia. The pain has increased in severity and is aggravated by coughing, sneezing, and by exposure of person to cold air. During the past week all the teeth in both upper and lower jaws, right side, have been painful. Patient has noticed no discharge. General malaise and anorexia.

Examination of right ear shows the drum-head and adjacent walls of canal to be denuded and intensely injected. The flaccid membrane is bulging slightly. Landmarks not seen. No perforation detected. The left drum-head shows evidence of trophic changes. Hears loud voice in right ear, low voice in left. Pharynx is congested. Right lower sixth year molar is pulpless, and there is catarrhal inflammation of gums and accumulations of tartar on the teeth.

Patient was given calx. sulph. (gr. 1-20 every three hours) and was sent to dentist to have molar tooth extracted. In twenty-four hours there was decided amelioration of pain. The inflamed parts, however, were still hyperæmic, and the bulging of flaccid membrane had not increased. During the next six days, there was gradual subsidence of subjective symptoms and treatment was discontinued on the seventh day. On the tenth day after admission the drum-head was clearing up, low voice was heard in the affected ear, and patient had no further trouble.

CASE VI. *Acute catarrhal inflammation of attic and congestion of membrana flaccida. Atrium and membrana vivrans not involved.*

Male, aged twenty-three. Three years ago, had earache in right ear, without discharge. "Takes cold easily." Three days ago was taken with pain in the left ear, aggravated by coughing, mastication, sneezing, etc., and by pulling on the auricle. He has noticed autophonia and deafness, but no discharge. Sleeps well.

Examination of the left ear shows the membrana flaccida and superior adjacent wall of canal to be injected; the membrana vivrans is normal in appearance. Some ten minutes after first examination, a second examination was made (the patient having complained of more pain), when a very marked increase in the intensity of the congestion was observed. The right ear was normal. Patient heard low voice in the left ear, lowest voice in the right. Calx. sulph. (1-50 of a grain) administered every two hours, and aconite and belladonna every fifteen minutes, results in relief.

The frequent failure of patients to return again after one or two visits to the Infirmary often prevents the completion of records; the interest felt in such cases sometimes induces the surgeon to look them up and ascertain what course the disease subsequently took. It is in this way that the *vis medicatrix naturæ* may be studied, since one finds that the course of aural disease is often self-limited; treatment, therefore, should be based upon such expectations and instead of "attacking" the disease, the regressive course should be anticipated by mild measures. Of course, the experienced observer will nearly always be able to judge from the constitution of the patient, and the progress the disease has already made, as to its probable severity. Some of the cases above reported, very well illustrate the effects of the rapid effusion which sometimes takes place in the attic, especially in the early stage of inflammation, in consequence of which there is detachment of the dermic layer of both drum-head and canal walls immediately in front of this region, with more or less tumefaction. The early recognition of grave cases of acute aural catarrh is important, especially where the attic is chiefly involved; in the latter a familiarity with the anatomical limitations is essential in order that prompt measures may be taken, and drainage secured and maintained.

These cases are noteworthy on account of the absence of perforations in the drum-head and consequently of otorrhœa. The vibrating portion of the drum-head being unaffected there was but little deafness, and there was no autophonia. In a certain number of these cases there would doubtless have been a rupture of the drum-head but for the escape of fluids via the Eustachian tube. The exudation-cyst described in Case V, was not large and did not, therefore, prevent a diagnosis being readily made; when these cysts are large, involving the greater portion of the drum-head, the appearances are misleading, even to an expert, since all of the natural landmarks are obliterated. It will be observed that in Case VI, the careful introduction of a speculum for the inspection of the deeper parts was followed by an increase of hyperæmia and pain; attempts at establishing a complete diagnosis by prolonged examination, and the thorough removal of epithelial products and the like from the ear, are therefore often inadvisable, since these procedures are liable to injure the inflamed parts.

In the treatment of these cases it is good practice to let well alone, persevering and fussy local manipulations nearly always doing harm. Under rest and the internal administration of very simple remedies, severe pain is usually relieved, although the prudent application of dry heat, or the vapor emanating from hot cloths, etc., may also be serviceable.

In a number of these patients the presence of dead teeth in the jaws, accumulations of tartar, and catarrh of the upper air passages, were causative through reflex irritation of the ear; and the removal of dead teeth and tartar, and alleviation of throat troubles were necessary adjuvants to other remedial measures.

Therapeutical Memoranda.

DOES THE SULPHATE OF QUINIA, WHEN GIVEN IN MODERATE DOSES, INCREASE THE NUMBER OF THE RED BLOOD CORPUSCLES?

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THE very general use of quinine as a tonic, apart from any anti-periodic effect, shows that it must in some way improve the condition of the system, not only by acting as a simple bitter tonic, but also by means of some power peculiar to itself. The question with which this article is headed has been probably answered mentally in the affirmative by every one who has read it; but while this opinion is now prevalent among the profession, there has been no experimental proof of the correctness of this belief. On the contrary, all the experimentation of which we have any record is contradictory to the general idea. As long ago as 1855, Briquet [1] made the assertion that quinine in continued therapeutic doses lowered the proportion of the red blood-corpuscles. Notwithstanding the fact that Briquet's experiments were very thorough, his statements seem so contrary to all our clinical experience, that I made the following observations, in order to decide, if possible, which belief was the proper one. With this object in view, I first made counts of the red corpuscles to the number of forty-two on my own blood, at a time when I was under the influence of no drug, and also made another series of observations while taking ten grains of the sulphate of quinine a day. While forty-two counts were made in each appended table, it will be seen that only fourteen counts appear, the explanation being that each of the numbers given in the table is the average of three counts made at each of the times named. This taking of the average of three counts was for the purpose of avoiding error. It will also be observed that strict attention was paid to the hours at which counts were taken, as variation in this respect would nullify all results, owing to the constantly changing proportion of the blood discs at various portions of the twenty-four hours. These precautions having been taken, there is left but little room for fallacious results, since, in addition, I was careful as to my diet, and maintained a regular mode of life.

At the time that Briquet published his paper, the

[1] Briquet. Traité Thérapeutique de Quinquina, Paris, 1885. Quoted by H. C. Wood.

methods for making careful estimates of the corpuscles were very crude, comparatively speaking, and even at the present day, all of the hæmatocytometers are in part unsatisfactory, and to a certain extent, unreliable. That they are accurate enough to be useful adjuvants to the armamentarium of the clinician is certain, but he who does much blood-cell counting must be impressed with the thought that the old methods must have given very uncertain results.

The following figures are the estimates by various observers of the number of red corpuscles to the cubic millimeter, and are quoted for the sake of illustrating the difference not only between the estimates of many years ago, but also as showing that even at present, with our comparatively perfected instruments, we often find considerable discrepancies in results.

Welchker found	4,600,000
Cramer "	4,726,000
Malassez "	4,000,000
Gowers "	5,000,000
Nancrede and Henry found . .	5,751,000
The Writer found	5,942,000

The observations are in chronological order.

While our apparatus is therefore somewhat inaccurate, it makes little difference in the results obtained in an investigation such as the one before us, since the object is not to find out the exact number of the corpuscles, but to discover if their number, under the same circumstances, is increased or diminished, the same blood-cell counting apparatus being used in each and every count.

The writer used the apparatus of Malassez, with the mixer of potain. In taking the doses, the following order was adhered to: Four grains at bed-time, and three grains each after breakfast and after dinner, at mid-day.

The tables show a very considerable increase in the red blood-corpuscles when the system is under the influence of quinine. It is proper to state that, owing to idiosyncrasy, ten grains of this drug a day produced positive symptoms of cinchonism.

No Drug Used.			Drug Used. 10 Grains of Quinine per Day.		
Date.	Hour.	No. of Red Blood Corpuscles in a cub. millimetre.	Date.	Hour.	No. of Red Blood Corpuscles in a cub. millimetre.
Dec. 28,	10, A.M.	5,740,000	Jan. 4,	10, A.M.	5,750,000
"	6.30, P.M.	5,040,000	"	6.30, P.M.	5,640,000
Dec. 29,	10, A.M.	6,142,000	Jan. 5,	10, A.M.	5,940,000
"	6.30, P.M.	5,820,000	"	6.30, P.M.	6,000,000
Dec. 30,	10, A.M.	6,840,000	Jan. 6,	10, A.M.	6,120,000
"	6.30, P.M.	6,080,000	"	6.30, P.M.	5,940,000
Dec. 31,	10, A.M.	6,120,000	Jan. 7,	10, A.M.	6,180,000
"	6.30, P.M.	5,640,000	"	6.30, P.M.	6,120,000
Jan. 1,	10, A.M.	5,940,000	Jan. 8,	10, A.M.	6,840,000
"	6.30, P.M.	5,220,000	"	6.30, P.M.	6,380,000
Jan. 2,	10, A.M.	6,060,000	Jan. 9,	10, A.M.	6,540,000
"	6.30, P.M.	5,830,000	"	6.30, P.M.	6,420,000
Jan. 3,	10. A.M.	5,940,000	Jan. 10,	10, A.M.	6,500,000
"	6.30, P.M.	5,100,000	"	6.30, P.M.	6,340,000
Average number before Drug, . .		5,822,286	Average number with Drug, . . .		6,194,285

Reports of Societies.

BOSTON MEDICO-PSYCHOLOGICAL SOCIETY.

PHILIP COOMBS KNAPP, M.D., SECRETARY.

FEBRUARY 18th, 1886, DR. W. B. GOLDSMITH in the chair.

DR. ASBURY G. SMITH read a paper on

EDUCATION AND CARE OF THE IDIOT.[1]

DR. FISHER did not think that the money spent in educating idiots was wasted, but that it was well spent in improving them. He thought that much was done for them at South Boston, and that the farm at Dover had its advantages. Dements and idiots were somewhat alike in that both required education, and in this way some or even considerable progress is made, though the educational process may not be carried far enough. In dements the developed brain has been damaged, while idiots are sent to school in early life when the process of development is incomplete. We often see a surprising improvement in dements after such process of education have been carried on; they are taught to be neat, to feed themselves, to dress, and to control bad habits, and they may be able to return home and become a source of comfort to their friends. Dr. Lalor, of Dublin, had an elaborate system of schools and put many of his patients through courses of education which he thought of value.

DR. SMITH, in answer to a question by Dr. Ayer, said that acute diseases were not more prevalent or more fatal, and that medicines acted as usual. In answer to Dr. Tuttle, he said that their school hours were from 9 to 12.30 and from 2.15 to 5, keeping like the public schools. Everything, even their play, must tend to educate. In school they learn to keep still; the lower grades have fifteen-minute exercises, with times for recess. They have no free time without restraint. They play like other children, and would run away if not watched. The large boys go to the farm at Dover, which they enjoy, but the farm is of but little service to the institution except as a home for training ten or fifteen large boys. It is not easy of access, and cannot furnish produce for the school. The institution ought to be in the centre of a large farm.

DR. STEDMAN asked, *apropos* of the training of such children, whether there was the same difficulty with idiots in whom the mental loss was of a fixed nature that there was with dements in whom the impairment was a progressive retrograde process. In the former does a lesson once learned, or a habit once formed through teaching stay by them, or is the *same* amount of labor required to fix it on the mind as is the case with the demented patient?

DR. SMITH said that the idiots of the lowest grades forget persistently, and are sometimes given up as hopeless, when they surprise us by remembering some one thing. In the higher grades constant repetition may teach something.

DR. STEDMAN had been struck with the large percentage of idiots and imbeciles now living in the almshouses throughout the State.

DR. SMITH, in answer to Dr. Cowles, said that the capacity of congenital as well as of acquired idiots may be of a high or low grade. There was nothing char-

[1] See this Journal, page 364.

acteristic in the two forms. Their intellects have only a very limited capacity of reasoning, which may be developed by teaching. Many can return home and, under the care of their friends, become useful members of society.

DR. COWLES asked if some were not very slow in development, as was seen in healthy minds, who finally attained a good standard of intelligence.

DR. SMITH said that few such cases got into the school. They were recommended to be sent back to the public schools. If in the school they have special instruction, more adapted to their minds, but as a rule public schools are better.

DR. COWLES asked if some were not defective in special mental traits, like memory, the emotions, or the moral sense, as we see at times in criminals or stupid children. Could a classification be based upon these special defects, or treatment be adapted to them?

DR. SMITH said that such cases were seen at South Boston, but that any classification would need observation in a larger institution.

DR. JELLY saw many idiots at present, and had seen improvement in some cases which were not at all hopeful. There were two greatly neglected classes, at present not received at South Boston: the epileptic and the violent. They have to go to the insane asylums, which is an outrage, as they are unfit cases, do not get proper care, and are not agreeable to the other insane patients. Epileptics might also improve at South Boston, though it has not at present the room or the means to care for them as it ought. In poor-houses they have no care.

DR. DENNY said that while imbeciles are not necessarily irresponsible before the law, and may under favorable conditions in some cases even support themselves, independent of any constant system of supervision, all idiots are both irresponsible and incapable of self-support. This distinction should not be overlooked when the reader's classification of idiots and imbeciles together as "feeble minded" persons is adopted. The report of the New York City Lunatic Asylum for 1882, which fortunately states the occupation in connection with the form of disease, registers three among the eight imbeciles discharged that year, whose occupations were severally that of messenger, peddler, and ship-caulker. Defect of sense — perception, epilepsy, paralysis, etc., are frequently so associated with complete idiocy as to render necessary the question of care like that concerned in the provision for the final stage of general paralysis of the insane, where special difficulty is encountered in maintaining cleanliness and preventing bed-sores. The precautions adopted by Prof. Sanders of the University of Berlin to ensure the best results in these respects among those of this class in his wards in the Insane Hospital at Dalldorf, commend themselves as applicable to the care of helpless idiocy. The speaker had the pleasure of visiting his wards recently, and saw some twenty-five cases of general paralysis in its most advanced stages, in one dormitory that was free from odor. These patients lie, without anything interposed, directly upon a loose, soft, thick bedding of "wood wool" contained in a box-shaped bedstead. The advantage claimed is that the material is so cheap as well as comfortable, that it can be renewed whenever soiled, with almost no expense, so that the patient can have a new, sweet bed several times daily with comparatively little trouble. If this material were prepared from the antiseptic and sweet-smelling wood of the fir it might better enhance its value. While there are undoubtedly stages of imbecility in its lowest degree that are extremely difficult to distinguish from the highest stage of idiocy, yet where there is memory, power of association of ideas, recognition of persons, and an understanding of language, there is strictly speaking, imbecility, so that the constant and persistent repetition of object lessons with judicious control may result in developing the mind to large extent, although it is difficult to realize the vast amount of skilful, patient labor demanded. The interesting statements as to methods and results obtained by the reader contribute toward a better appreciation of the successful operation of the class of institutions with which he is connected. A custodial department, which also might relieve the insane asylums is highly desirable.

DR. KNAPP spoke of Gilson's classification into idiots, imbeciles, feeble-minded, the latter class including those with some slighter or some single mental defect, such as may be seen in almost every town; those who are fairly capable of caring for themselves, but who are generally regarded as "not very bright," or a "little lacking."

DR. GOLDSMITH said that when defect of the mental faculties is apparent at birth, or in early infancy, the child is classed as an idiot, but when there is more or less complete arrest of development of a mind which has begun and progressed normally through early infancy, the condition is imbecility. An imbecile may therefore show any grade of intelligence between idiocy and that of the normal adult. He was interested in the proposed plan of dividing the school into an educational and custodial department, as a somewhat superficial investigation of the work of the existing institution for these defective classes had caused him to believe that their advantages were too largely bestowed upon the few who are susceptible of considerable education, while the great mass of those who can only learn to be in a greater or less degree decent, are left entirely without expert training, and placed in unsuitable associations in insane asylums and almshouses. An asylum in connection with a school for idiots would be able to do a great humanitarian work in saving the hopeless cases from the degradation which is sure to ensue, unless there is persistent, organized, skilled effort to prevent it.

He had been impressed by reading and by conversation with educators of idiots, with the extreme zeal and earnestness with which they tried every expedient and utilized every avenue to the child's mind. He thought that those who treated the insane might imitate with advantage their example in the cases of some demented patients, though he fully appreciated the wide difference between the re-education of the demented brain and the education of one imperfectly developed, and should expect much poorer results, but it is apparent that the work is not utterly hopeless, from the occasional marked improvement that are seen in such cases under the influence of some especially skilled attendant. I know of no hospital for the insane where there is organized effort in this direction similar to that practised in schools for idiots. Dr. Lalor in his school system at the Richmond Asylum, near Dublin, Ireland, approaches it more nearly than any other asylum physician of whom I have knowledge, but his practice is much less complete and thorough.

NEW YORK NEUROLOGICAL SOCIETY.

STATED meeting, March 2, 1886.

The Vice-President, LEONARD WEBER, M.D., in the chair.

DR. SPITZKA exhibited the

BRAIN OF A PORPOISE,

demonstrating the absence of the pyramid tract in this animal, and the enormous size of the auditory nerve, which nearly equalled the lumbar cord of the same animal in transverse section. The comparatively small diameter and shortness of the segments of the lumbar cord, as compared with the dorsal segments, was dwelt upon. The brain weighed a few drachms short of forty-five ounces; the animal (a bottle-nosed dolphin) weighed 286 pounds, and was obtained through Mr. Eugene Blackford.

DR. SPITZKA then presented the specimens and history of

A CASE OF NEUROGLIOMATOUS HYPERTROPHY OF THE PONS OBLONGATA.

The facial, pneumogastric, and hypoglossal neuclei were distinctively involved.

The following was the condition of the tumor and the involved structures:

While the infiltration was diffused over a large area of the oblongata and pons, it was only in a comparatively limited compass that it could be considered as a destructive lesion. It had not advanced uniformly from a given original focus, but had extended in the direction of special tissues which seemed to favor its progress. Thus, compact nerve strands seemed to oppose resistance, while ganglionic tissue acted as a guide. The consequence was that the raphe, most nerve roots, and the great strands, such as the ascending root of the fifth pair and the restiform column, were either perfectly free or so slightly involved that it was difficult to determine whether they were affected. The vascular districts, particularly of a capillary character, which abound in the reticular field of the tegmentum, also favored the extension of the growth.

Where the lesion was at its maximum no trace of the normal tissues could be discovered. A finely molecular basis substance, crowded with bodies resembling neuroglia nuclei, but mostly of larger size, and others resembling the small variety of ganglionic cells, but without well defined processes, predominated over the basis substance to such an extent that even in fairly thin sections nothing but these nuclei and granules could be seen. Many of these bodies were surrounded by a halo, resembling the cell capsule hydropsia, described by Hurbich and Forel; others were imbedded in a hyaline material, presenting an appearance like that of a cell body, including a nucleus. This stained brown in alum-hæmatoxylin, while the nuclei stained a deep blue. The former were not stained by carmine.

But the most remarkable feature were the blood-vessels of the neoplasm; these, distended to their utmost capacity, abounded in at least four fold the number and size of the opposite side, where they were affected. They presented every evidence of rapid growth and enlargement and many were evidently newly formed, while signs of vascular new formation were common. They were contorted in the most bizarre fashion imaginable. The blood within these vessels was in a condition of stasis; the vascular walls were exceedingly thin, and in many places ectatic; in several places the infiltration had undergone rarification, probably owing to softening and absorption of its hyaline products. An irregular spot of this kind was situated immediately caudad of and in the concavity of the genu facialis. Another was in the corresponding situation at the head of the roots of the vagus nerve, a third in the very center of the reticular field mesad of the pneumogastric rootlets. A fourth has been described as situated in the interolivary layer. In some sections the neoplasm did not cut well, and did not remain in the section, the cut surface showing the appearance usually presented by spots of malacia that have been hardened. This was the case with a spot in the very center of a focus of the disease which accurately corresponded to the middle abducens nerve roots.

The motor nucleus of the right trigeminus was seriously involved. Sensory nucleus of the same in the exit level slightly involved. Right lower facial nucleus destroyed. Right abducens nucleus scarcely involved. Right vagus glosso-pharyngeal nucleus nearly destroyed in higher levels, free in the lowest. Left vago-glosso-pharyngeal nucleus slightly involved in intermediate levels. Hypoglossal nucleus destroyed on both sides in its upper, on the right side in the middle third. The nuclei of the fasciculi testes cannot be identified anywhere.

Of nerve tracts, the pyramids, the transverse pons fibres, and the cerebellar peduncles with their continuations, appear to be entirely free from disease.

The posterior longitudinal fasciculi are both normal above the abducens nuclei; in that level they show slight infiltration on the right side; in the hypoglossal level the right is intensely involved. The right solitary bundle, also known as the round and trineural bundle, is greatly involved in its proper substance in the exit level of the tenth and eleventh pairs; singularly enough its cephalic termination in the nervous intermedius, is free, the ganglionic substance in which the fascicle is imbedded is entirely destroyed in the affected levels, and the destruction extends in the direction of the afferent and efferent fibres.

The nerve rootlets are mostly normal where identifiable. In all but the most intensely affected areas they pierce the lesion without showing any signs of disease. This is notably the case with the abducens nerve; some of the glossopharyngeal levels were lost. The abducens and vagus fibres, however, are distinctly less numerous on the right than on the left side. The right facial nerve, whose peripheral overhardened portion appears normal, is the seat of intense degeneration; the axis cylinders are destroyed.

The reader thought that in the light of the post mortem findings, deducing from the intensity of the lesions its age, and corelating it with the observed symptoms, we may infer that the neoplasm originated in the reticular field, which it involved diffusely at the start, including in its area the emerging root of the right abducens and the facial nucleus; that it extended from the latter backwards into the deep nucleus of the mixed system, and progressing towards the raphe and ventricular floor; in the transverse direction extended to the trigeminal nuclei, cephalad, and to the hypoglossal nuclei and posterior longitudinal fasciculi afterwards; its latest invasion being the interolivary layer.

The gastric vagus nerve functions were the first to

be involved in the thirteen months' illness; nausea and vomiting inaugurating the illness, and culminating in attacks of vertigo, during the first four months of her illness; drowsiness, aggravated when the stomach was full, was a prominent symptom, and bulimia preceding death. The cardiac functions were involved seven months after the disorder first manifested itself, and became aggravated sub finem, as well as the dyspnœa and precordial fears which are dependent on disturbances of the same nerve. The motor functions of the lateral set of nerves were also considerably involved. Difficulty of deglutition was experienced after four months in constantly increasing severity, so that swallowing finally became impossible. The paralysis of the palate was extreme for the last six months, and had been noticed in lesser degree since the fifth month of her illness.

With the above symptoms the destructive involvement of the right vagus nucleus, the invasion of the left nucleus, and the destruction of a part of the vagus roots is in accord. The considerable involvement of the deep or motor nucleus in its upper levels, which I have proposed to term the nucleus of the pharyngeal muscles, is equally in harmony with the progress of their functional insufficiency.

Symptoms of irritation, in several instances, preceded the evidences of nuclear paralysis, or existed alone. Thus, spasm of the muscles of mastication preceded a slight evanescent paresis of these muscles. The motor trigeminus nucleus was involved, but not destructively so. The total paralysis of the facial nerve was preceded by facial spasm, and the last step in the extinction of the facial nerve functions, the paralysis of the uvula, was preceded by what can be interpreted in no other way than a contracture of the subsequently paralyzed half. It is an interesting fact that the stapedius paralysis, which probably accounts for the tinnitus went parallel with the paralysis of the external branches of the facial nerve, and not of the pharyngeal rami.

The subjective hemi-numbness, which at no time involved the left side of the face, was a crossed symptom, in harmony with all earlier observations. It began four and a half months after invasion, and as it increased became associated with hemi-paresthesia, hemi-paralysis of the pressure sense, and ultimately with hemi-ataxia due to hemi-paralysis of the muscular sense. As the focus of the lesion lay in the mesal half of the reticular field, we may attribute the maximal disturbance of the weight and pressure sense to it, and the lesser disturbances, due to irritative pressure of nerve tracts, to the infiltrated but undestroyed fields near the ascending fifth root. The terminal loss of muscular sense is to be attributed to the terminal lesion of the interolivary layer.

The paper concluded with the following propositions: sensory disturbance of the extremities, when existing on the side opposite to a facial nerve paralysis, if due to a single focus of disease, is as pathognomonic of a unilateral pons lesion as alternate paralysis of motion is. The difference between the two is merely one of altitude; in the former case the lesion is in the tegmental part of the pons. In the latter case in the transverse fiber mass of the pons, which, as is well-known, includes the sagittal bundles of the pyramid tract.

Paralysis of associated eye movements to the side of the lesion are peculiar to affections of the brain axis; they are, when thus situated, always due to disease of the tegmental part of the pons, and to that part of it which lies inside of the emerging root series of the fifth and seventh pairs. The interolivary layer and the other part of the lemniscus are to be excluded from this area, whose focus appears to be near or in the posterior longitudinal fasciculus, as well as in the neighboring reticular area and raphe, and rather cephalad of the abducens nucleus than in the same level.

That form of associated eye movement paralysis which manifests itself in inability to move the eye globes in one lateral direction in the horizontal plane can be produced by lesion situated in and cephalad to the level of the abducens nucleus. It is for this reason that absolute paralysis of the external rectus muscle of that eye which is on the side of the lesion is commonly combined with the associated movement disturbance, as in the case presented.

Nystagmic oscillation in the plane of the disturbed movement may occur in such a case, as is shown by the one to-night related. I believe that this is the first observation of the kind in which the cerebellum and transverse or cerebellar pons fibres were intact. This was not the case with Graux's patient, whose cerebellum was the primary seat of the tumor.

DR. E. C. SEGUIN, being requested to open the discussion, said that he thought the paper was one which was hardly open to debate, but he welcomed it as a very valuable addition to our literature of these cases.

DR. M. A. STARR had observed in the specimens and diagrams presented, an apparent implication of the acoustic nerve.

DR. SPIZTKA said this nerve was entirely unaffected, and explained its seeming implication.

DR. C. L. DANA made a brief preliminary report of a case which he thought would be interesting in connection with lesions in this region. The man, about forty-five years old, was brought into his ward with a history of having been ill a very short time. He was strong and robust looking. He was found to have static ataxia; was unable to walk or stand. There was no motor paralysis in any of the extremities. There was anæsthesia of the temperature sense, of the tactile sense, and of the pain sense on the right side from the shoulder down, involving the right arm, right leg, and right side of the trunk; the right half of the face was not involved. There was no anæsthesia of touch, temperature, or pain sense on the left side; but in the left hand and arm there was the most marked ataxia which the speaker had ever seen. The arm showed no tremor nor paresis, but any attempt to place it in a particular position would cause it to fly about in a most senseless manner. There were some cerebral symptoms, but the intellect was clear. In a few days there developed some signs of vagus trouble; there was some difficulty in swallowing, partial paralysis of the vocal cords, inability to speak aloud. The patient died after about three days, from the entrance of food into the respiratory tract.

At the post mortem examination there were found a small aneurysm of the basilar artery, a recent thrombus of both vertebral arteries; near the upper aspect of the right half of the floor of the fourth ventricle was a small spot of softening. The latter lesion, it seemed to him, would account for the ataxia of the left arm. He had not yet prepared the brain further than to photograph it.

DR. A. D. ROCKWELL said the difficulty in locating

cerebral lesions was greater than one's reading might lead him to suppose. Out of a large number of cases of hemiplegia which he had seen, there was only one in which the symptoms were so distinct that he felt quite sure as to the location of the lesion. This occurred about a year ago, in a man whom he saw with Dr. A. R. Carman. The patient had a profound apoplectic stroke; deep coma supervened, with unconsciousness for some time; there was hemiplegia upon the right side; upon the left side there was facial paralysis. There was conjugate deviation of the eyes. The symptoms were so distinct that he ventured to locate the lesion in the lower lateral portion of the pons. The patient died within a few days, but an autopsy was not obtained.

Recent Literature.

Local Anæsthesia in General Medicine and Surgery. By J. L. CORNING, M.D., Formerly Resident Assistant Physician to the Hudson River State Hospital for the Insane, etc. New York: D. Appleton & Co. pp. 103. 1886.

This volume, composed mainly of a reprint of articles and cases already published, presents in a complete form the author's method of producing prolonged local anæsthesia. This consists in confining cocaine, injected hypodermically, to a selected region by causing stagnation of circulation, and thus obtaining a continued effect from prolonged contact of the drug with peripheral nervous filaments.

The introductory chapter on the history of anæsthetics in general contains nothing of especial interest in this connection, it being a subject so well known that repetition is scarcely necessary. In Part II, however, the author describes a method of producing local anæsthesia, which, should experience corroborate the statements of its originator, will be a most valuable addition to the resources of operative surgery. It is clearly presented to the reader, while diagrams and illustrations add to the conciseness and accuracy of the description, and increase greatly the ease with which details are comprehended. The appended cases illustrate the method previously described, and its adaptability to especial operations.

To those interested in this subject this little book will well repay the time spent in its perusal.

A Treatise on the Diseases of Infancy and Childhood. By J. LEWIS SMITH, M.D. Sixth Edition, thoroughly revised. With Forty Illustrations. Philadelphia: Lea Brothers & Co. 1886.

In reviewing this excellent work on the Diseases of Children, we are at once struck with the fact that the whole book has been thoroughly revised, and the advances which have been made during the last five years, in this branch of medicine, have been introduced carefully throughout the text. A number of entirely new plates has been added to the illustrations, and twenty-nine pages additional reading matter. The articles on scarlet fever and cerebro-spinal fever have been entirely rewritten and much enlarged, and valuable additions have been made to the articles on rachitis, tuberculosis and food.

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A PATIENT'S ACCOUNT OF A CASE OF INSOMNIA.

THE account which an intelligent man gives of his own sufferings is often as instructive as the doctor's report of the case, and when the story is practically the history of a lifetime, the patient is usually the only one capable of telling the story. In the *Homiletic Review*, a religious monthly magazine, the Rev. Dr. Ormiston, of New York, relates the story of a lifetime passed with what would seem to most men a very small amount of sleep.

He prefaces his story with the remarks of Sir Andrew Clark, who after a most thorough, painstaking and minute examination, said: "Dr. Ormiston, you were born to be a sleepless man, and your profession is exceedingly unfavorable to your repose. Had you been a ploughman or a shepherd you might have slept soundly." In infancy he seldom ever slept a whole hour at a time. In boyhood, though healthy and active, he never slept as long as his playmates. From fourteen till nineteen, though at work on a farm, he never slept continuously all night. When he commenced to prepare for college, he taught all day and studied the greater part of the night; he "frequently spent the whole night at work without any consciousness of fatigue or sense of weariness." Soon after entering college and while doing his work as a student he accepted an appointment as tutor, which compelled him to teach five hours a day for five days in the week. To accomplish this double amount of work he restricted himself to four hours in his bedroom. Practically such a course was pursued for six years. During the last year of theological study he taught five days in the week and on Sundays preached twice, riding forty miles and back in all kinds of weather. During all this time and the first years of his ministry he enjoyed habitually four hours sleep, sometimes five, seldom more. In his forty-second year, after a season of prolonged extra work he lost the power of sleeping entirely, and then began to realize that he had been long overtasking and abusing a rarely healthy vigorous constitution. He resorted to every expedient and tried every remedy "which the skill of science or the

common sense of experience could suggest," but with little or no avail. "After exhausting all the resources of pharmacy and baffling the tried skill of the best physicians," though a conscientious teetotaler from his youth, he consented to try the use of brandy. Its effect for a time was to induce a few hours of sleep, but it soon failed, as did also ale. Hydrate of chloral came into use about that time, and was recommended by his family physician, and his experience with the drug is highly interesting. "It worked like a charm." It gave him at once and with certainty from three to four hours of sound, refreshing, dreamless sleep, and its continued use for twelve years produced no perceptibly injurious effects. The dose was never increased, but diminished from thirty to fifteen grains, with a like amount of bromide of potassium. Most of the physicians consulted strongly disapproved the use of chloral, some of them condemned it altogether, but they could furnish no substitute. Chloral was used until 1879, when sore domestic bereavement brought on "congestion of the brain," and he became so weak that he slept from exhaustion without a narcotic. Up to 1883 he used the drug only occasionally, and yet had usually about four hours' sleep, which seemed to be his normal amount. Suddenly in that year sleep again left him and his nervous system seemed to be shattered as by a shock. This time, melancholy, nervous depression, and marked dyspepsia shrouded all the future in "impervious gloom."

Of all the efforts to effect a cure it is not necessary to speak in detail. Suffice to say that after various trials and failures in New York and Canada, a sea voyage and tour abroad was advised and unwillingly submitted to. The details of four months in England comprise an account of Dr. Milner Fothergill, Ventnor, Sir Andrew Clark, and a water-cure at Huntley, South Devon, but no improvement followed, and a return home seemed advisable. Here massage was resorted to and some improvement in appetite and strength followed, but no more sleep which now amounted to about two hours, and was procured by whiskey and milk taken nightly. The summer was spent at the seaside and on Lake Ontario, with warm and tried friends, and in the autumn he returned to the city resolved to try to work again. The work was a burden rather than a delight, but he slept quite as much as when living in enforced and irksome idleness. The next summer was spent in the Catskills and in Canada, and sleep approximated three hours. Health and vigor began to return and horseback exercise for two hours every morning was made a part of his daily routine. His former energy and vigor returned, and sleep grew to four hours, which the reverend doctor believes to be his normal amount.

The inferences of the reverend gentleman contain much of interest and positive value, though like all judgments on personal matters, tinctured perhaps by personal prejudice. Like most conscientious laborers with the pen, he belittles his own labor. He does not attribute his insomnia to overwork, but to work performed often for a great length of time without due cessation for repose, not infrequently for several successive days and nights and crowding one duty and public engagement after another in rapid succession, sometimes at late hours of the evening and working for many years without other reaction than change of employment.

"The same amount of mental work might have been performed as well, if not better, without inflicting any injury upon the nervous system, had proper precautions been taken to secure occasional rest and the invigorating refreshment of some rational and commendable recreation. . . . It is the manner rather than the amount of work which tells upon the constitution."

"To cease altogether from work and leave home and friends is not the wisest or kindliest method of treating insomnia and its effects on the nerves and stomach. It were better to diminish the amount of labor and to increase the amount of social and domestic enjoyment. Mere change of locality will avail but little, a change in the mental and social habits is what is required."

"While medicine has its place and may often avail much, the less medicine of any kind the better." While chloral is almost unanimously condemned, he was able to use it constantly for many years while performing full duty and often much extra work, without perceiving any injurious effects or being tempted to increase the dose.

The doctor is convinced that had he at the time of the last acute attack, quietly resorted to the use of chloral, lessened the amount of work for a year, and daily mounted a horse, he would have suffered less and been sooner restored to a condition of health and hopefulness.

From his experience the doctor strongly recommends early retiring and rising, the performance of all hard mental work in the early part of the day, the avoidance of all excitement late in the evenings, and the practice of taking exercise of some kind in the open air, in all weathers, unless very stormy, and whenever practicable this exercise should consist of a ride on horseback of not less than two hours every morning.

The doctrine of climacterics is invoked by the sufferer to explain the breakdown in the forty-second and sixty-third years: a more generally accepted doctrine give a reasonable explanation. The first breakdown certainly, and apparently the second, followed unusual exertion in a man who worked continually to the full extent of his ability, leaving no reserve force to meet an emergency, a not uncommon history in these cases.

The reverend doctor sets his parishioner sa good example in his manner of regarding his medical advisers. Their inability to set right by drugs the effects of an abuse that had extended over a lifetime does not seem to have soured him against the profession or driven him to believe in astrologers and faith cures. He says, "more skilful practitioners and more devoted friends in the faculty no man could have than I

have been favored with, and I give them my esteem and affection in return, but in no instance did I derive any cognizable advantage from their treatment."

THE INFLUENCE OF SEWERAGE AND WATER SUPPLY ON THE DEATH-RATE IN CITIES.

THE superior attractiveness as places of residence of those cities which enjoy sewerage and water-supply systems is patent to every intelligent person. Yet for the benefit of legislators and tax-payers who sometimes look grudgingly at the heavy expense account involved by the construction of these twin works (never rightly to be put asunder), it is desirable that something should be presented more cogent as an argument than mere olfactory sensations.

This has been done by Mr. Erwin F. Smith in a paper read at the Sanitary Convention of Ypsilanti, Michigan, in July last, and printed as a supplement to the Annual Report of the Michigan State Board of Health for that year. While the paper does not claim to present anything novel, it yet puts in an available and clear form the results of much collated information, taken, as the author regretfully says, from foreign more than from domestic sources simply because the carelessness of many of the States in regard to the collection and publication of vital statistics wastes a great deal of the material in this country which might be turned to good sanitary account.

The results of Mr. Smith's studies are presented in charts which show with the clearness of the graphic method what these measures have done for the mitigation of some of the infectious diseases. A chart, for instance, indicates the deaths from typhoid fever per 10,000 inhabitants in a number of cities for the periods before, during, and after the introduction of sewerage and water supply. In Munich the mortality fell from 21 deaths before the sewerage and water were introduced to 6.3 afterwards. In Boston from 17.4 to 5.6. All of the other localities given, Dantzic, Breslau, Frankfort, Berlin, Vienna, Brussels, London, New York, Brooklyn, and all England show a uniformly downward direction of the mortality curves corresponding to the time of the introduction and completion of these improvements. To compare with this we have another chart showing the typhoid mortality for the five years, 1880–84, on the one hand in a series of well sewered and watered cities to average about 2.4 per 10,000 of the inhabitants and on the other hand in a group of cities with imperfect sewers or none at all to average 10 per 10,000.

The cholera chart for the epidemic of 1866, is equally striking in its differences for the two classes of cities. In those whose water supply was good, they being also generally well sewered, the deaths per 10,000 inhabitants were for New York 12.8, for Brooklyn 16.5, Boston 0.6, London 18.4, Glasgow, 1.6. While in the group of those cities either incompletely sewered or entirely destitute of modern sewers and very dirty, the water supply also being deficient both in quantity and quality, the mortality rate ranged from 43.7 the lowest, that of Chicago, to 268 the highest, in Memphis, with Breslau, Toulon, Palermo, and St. Louis, in a slowly descending series from that maximum.

Upon diphtheria, on the contrary, the author's statistics seem to show that the existence or non-existence of sewers has little effect. For of the well-sewered districts we find Berlin and Boston with the respective mortality per 10,000 inhabitants of 16.5 and 16.3, which are very nearly the highest rates recorded, Brooklyn also having a death-rate of 13.7, and New York of 12. London, Brussels, Frankfort and a few other European towns serve to bring down the average of the well-sewered cities to only 8.8, while that of the non-sewered cities is 10, Baltimore having the highest, 16.7, and New Orleans the lowest, 2.9. The average of the mixed districts (sewered in part), is only 9.5, Massachusetts heading the list at 13.1, and England bringing up the rear at 3.

Besides the sanitary aspect, of the question, Mr. Smith introduces another which will perhaps appeal as strongly to some legislators, the economic. Statisticians have not neglected this feature of the case before, and Sir James Paget, in his address before the International Health Exhibition in 1884, brought out some striking facts regarding the economic loss from preventable diseases, which were referred to in the JOURNAL of July 17, 1884. On this point Mr. Smith says: "It is entirely within bounds to say that the general introduction of proper sanitary measures, meaning thereby the provision of an abundant supply of pure water and the proper disposal of excreta, would reduce the annual loss in the United States from one single cause, the preventable typhoid-fever, two-thirds to three-fourths, with an economic husbanding of at least $25,000,000 a year,— enough, in the course of a few generations, to sewer every city and village from the Atlantic to the Pacific."

Whence he legitimately concludes that the introduction of sewerage and water supply systems at any cost is the soundest social and financial economy.

INSANITY IN VERMONT.

DR. JOSEPH H. DRAPER, superintendent of the insane asylum at Brattleboro, has recently written a paper on the "History of Lunacy in Vermont during the last Fifty Years."

Vermont is one of the few States in this country which has no public or State lunatic hospital, though as long ago as 1880, there were nine hundred lunatics in the State. She sends her paupers to the asylum at Brattleboro, as well as all insane criminals. The total amount of her benefactions to this institution has so far reached only $23,000!

Here is a lesson for Massachusetts publicists to ponder! The State of Vermont, with an insane popu-

lation probably aggregating, by this time, a total of one thousand, has, so far, expended only a sum equal to the *per capita* cost of ten lunatics in some of the Massachusetts hospitals! Blessed are the lessons of adversity! and Vermont should profit by these lessons in the present case.

Though the Vermont asylum has so far been large enough to receive all applicants, the time will soon come for the State to make further provision for her insane. She can do this at a small expense by putting up simple, unpretentious buildings especially adapted for her pauper class, leaving the upper and middle classes at the present asylum, which is properly and peculiarly adapted to their case.

In this connection, it is well to remember that a large number belonging to both these classes become impoverished because of disease. They are not *paupers* in the sense the word is generally used, and we should use the word *indigent* in speaking of and classifying them, as is done in other places, to contra-distinguish them from paupers.

Insanity is to be peculiarly dreaded, because it so often destroys the bread-winning capacity of its subjects, and in this way, upsets the financial prosperity of many families, and throws a heavy burden on the State. Once the disease gets a foot-hold in a family, it may be years before it recovers from its paralyzing or depressing influences.

It seems unfortunate that the asylum at Brattleboro should be obliged to receive insane criminals, as it is an incorporated or private institution, and never intended to receive such persons; yet we see that fifty-three of this class have already been under treatment. For the last six years, there have been about twenty in the asylum. Provision for them in connection with one of the prisons has been repeatedly urged, yet without effect.

Dr. Draper refers to the fact that it has been customary in America to ignore social distinctions in providing for the insane. The injustice of such a lack of classification is now, however, pretty well understood, and the tendency is becoming stronger to consider the social and moral, as well as the mental condition, of the insane.

While the disease requires hospital treatment alike in all cases, the worthy citizen, the debased criminal, and the foreign pauper, need not be thrown together under one roof, and into a juxtaposition absolutely impossible in ordinary sane life. Each class should be furnished with separate buildings, adapted, as far as circumstances admit, to their former mode of life.

MEDICAL NOTES.

— The Committee of the American Medical Association on the Rush Monument will meet on Monday, May 3d, at 4 P. M., in the large parlor of the Lindell house, St. Louis, Mo., which will be the headquarters of the Committee during the meeting of the Association.

— The mortality from rabies in Philadelphia for the last twenty-five years has been sixty. The largest number of cases (seven) occurred in 1869. In 1881 there were five cases. In 1860 and 1884, none.

— The Contagious Diseases Acts of Great Britain, by which prostitution was regulated in the garrison towns, have been repealed by a vote of 245 to 131. English medical opinion, as a rule, supported the acts. The *Lancet* expresses regret at the repeal, and says that henceforth "disease and immorality in their most revolting forms are to riot in the midst of our garrison towns."

— The various instances of abbreviatory slang which have been cited in evidence of "American rush," seem to be paralleled on the other side of the water. We have heard much in recent summers, of the "Healtheries" and the "Inventories." And now the "Sike" and the "Sikes" are familiarly spoken of, referring to the Society for Psychical Research, and the members of the same.

— Among the absurdities into which the arrogance of high station leads some men, is the following ukase issued by the King of Servia on Dec. 12 last: "Whereas, it is irrefutably proved by science that the so-called antiseptic treatment of wounds yields more beneficial results than all other methods, we are pleased to order that henceforward the said antiseptic plan of treatment be solely employed in all hospitals of Our Kingdom, and that corrosive sublimate and iodoform be used until Our further dispositions."

— A curious story, recalling the myths of early Rome, is given in the *Medical Press and Circular*, of a woman of Toulouse who while working in the fields left her baby in a shady corner whither she went occasionally to nurse it. Meantime a bitch was left to protect the child. After a time, the latter not seeming to be as hungry for the breast as usual, the mother watched it, and found the bitch standing over the baby who was nursing with relish. The mother saw no objection to the proceeding and allowed it to continue. The child throve, and the arrangement proved eminently satisfactory to all concerned.

— Important changes are in progress at Oxford which will give the university a real faculty of medicine. It has hitherto conducted medical examinations for graduates in arts who have obtained their professional education elsewhere, generally at one of the great London hospitals. Hereafter, however, Oxford men will be able to enter the university as medical students, as has long been the case at Cambridge. It will still be necessary for them, however, to graduate in arts, which will practically mean in the school of natural science, before they can proceed to a medical degree. Men who pursue natural science are to be exempted from some of the classical examinations heretofore required. Among the professors already secured, are Dr. Arthur Thomson of Edinburgh for the chair of anatomy, and Profs. Bagley Balfour, Burdon Sanderson, and H. N. Moseley for the departments respectively of botany, physiology, and zoology.

BOSTON.

— Glanders is reported to have appeared among horses at the South End of Boston and also at the Cambridge Railroad stables. A jockey who attempted to sell a horse affected with this disease at Brighton, was pursued by the authorities, and for the time escaped. But having succeeded subsequently in selling the animal in a neighboring town he was arrested. The horse was killed.

— The annual meeting of the Massachusetts Infant Asylum took place at the home in Jamaica Plain last week, Mr. Thomas Parsons in the chair. Dr. H. P. Bowditch was chosen president of the association for the ensuing year, Mr. Parsons and Dr. Wells of Brookline the vice-presidents, Edward S. Philbrick treasurer, and Charles P. Ware secretary, and nearly all the old directors were reëlected. The expenses of the past year have exceeded the appropriation, but the asylum has been enabled, through the receipt of several legacies, to come out with a clean balance sheet. The health of the children is good, and many of them have been adopted during the year.

NEW YORK.

— The late Wm. H. Vanderbilt's magnificent gift of $500,000 to the College of Physicians and Surgeons has now been supplemented, not only by that of his daughter for the founding and maintenance of the Sloane Maternity Hospital in connection with that institution, but also by an additional gift from his three sons, Cornelius, William, and George, of $62,500 each, or a total of $250,000, for the erection and endowment of a new building, to be known as the Vanderbilt Clinic of the College of Physicians and Surgeons.

This, with the exception of the lower floor, which will be used for a free dispensary, is to be entirely devoted to clinical instruction. Of the $250,000 thus donated, $150,000 will be expended in the construction of the building, the balance being reserved for the running expenses of the various clinics, and the maintenance of the dispensary. The new building will be erected at the corner of Tenth Avenue and Sixtieth Street, adjoining the Sloane Maternity Hospital, and, like the latter, will cover an area of seventy-five by one hundred feet. These two structures will conform in general architectural appearance and design, to the new college now in process of erection on the Ninth Avenue end of the lot. The corner-stone of the latter is to be laid on Saturday, April 24th, on which occasion Mr. Chauncey M. Depew will deliver the oration.

The erection of the building, the investment of the surplus funds, and the equipment and furnishing of the Vanderbilt Clinic, will be entrusted to a board of five managers, in which Frederick W. Vanderbilt will represent the donors; Dr. John C. Dalton, President, the College of Physicians and Surgeons; Dr. William H. Draper, the Board of Trustees of the College; and Drs. H. B. Sands and James W. McLane, the Faculty of the College. The institution will not be in the nature of a hospital, as it will be devoted to clinical teaching in cases not confined to bed, the branches included being diseases of the eye, ear, throat, lungs, skin, and nervous system, as well as diseases of women and children. The total gifts of the Vanderbilt family to the College of Physicians and Surgeons, with this new benefaction, thus amount to almost one million dollars.

Miscellany.

TYNDALL'S THEORY OF VACCINATION.

Professor Tyndall explains the philosophy of vaccination as follows: "When a tree or a bundle of wheat or barley straw is burned, a certain amount of mineral matter remains in the ashes — extremely small in comparison with the bulk of the tree or of the straw, but absolutely essential to its growth. In a soil lacking, or exhausted of, the necessary constituents, the tree cannot live, the crop cannot grow. Now, contagia are living things, which demand certain elements of life just as inexorably as trees or wheat or barley; and it is not difficult to see that a crop of a given parasite may have so far used up a constituent existing in small quantities in the body, but essential in the growth of the parasite, as to render the body unfit for the production of a second crop. The soil is exhausted, and until the lost constituent is restored, the body is protected from any further attack from the same disorder. Such an explanation of non-recurrent diseases naturally presents itself to a thorough believer in the germ theory, and such was the solution which, in reply to a question, I ventured to offer nearly fifteen years ago to an eminent physician. To exhaust a soil, however, a parasite less vigorous and destructive than the really virulent one may suffice; and if, after having, by means of a feebler organism, exhausted the soil without fatal result, the most highly virulent parasite be introduced into the system, it will prove powerless. This, in the language of the germ theory, is the whole secret of vaccination."

THE MECHANICAL TREATMENT OF PLEURITIC EFFUSION.

A somewhat novel treatment of pleurisy with effusion is mentioned in the *London Medical Record*, March 15, as having been recommended by Dr. Cimbali of Siena (*Lo Sperimentale*, October 1885). This writer treated several cases of pleuritic effusion by massage and by compressed air, or rather by forcing air into the lungs. The period suitable for this treatment is when the acute symptoms have subsided, and before the condition has become chronic. The massage is carried out by rubbing with firm pressure the greased chest in the intercostal spaces, from vertebral column to sternum, two or three times a day. Apart from the revulsive action on the skin, this probably exerts a directly stimulant action on the pleura, and may even detach pieces of fibrine. The compressed air was administered in rather a novel fashion. By means of an elastic tube with a mouthpiece, air was forced into the lungs from an ordinary pair of bellows, during each inspiratory act, for five or ten minutes, and this was repeated four or five times a day. The object of forcing air into the lungs was two-fold: to prevent col-

lapse of the air cells, and to exert compression on the effused fluid. Of eight cases so treated, seven were completely cured in from twenty-five to forty days. The remaining case, one of enormous effusion of eight months' standing, was entirely unaffected by the treatment. In no case was the slightest inconvenience complained of by the patient.

THE LAYING OF THE FOUNDATION-STONE OF THE NEW EXAMINATION HALL IN LONDON.

THE London papers of the 24th of March are at hand, containing a report of the scene at the laying of the corner-stone on that day, by her British Majesty, of the new examination hall of the Royal Colleges of Physicians and Surgeons of England. The edifice, which will occupy a prominent site upon the Thames embankment, is to be about one hundred and fifty feet square and seventy feet in height, and will contain examination rooms, laboratories, offices, etc., sufficient for the needs of both the Colleges.

The ceremony on the 24th ult., was carried out with the elaborateness of circumstance with which our English brethren invest formal occasions. The physicians appeared, to the astonishment of the populace, in the caps, robes and hoods of their colleges, with a brilliant display of color. The various officials who took part in the celebration were received as they arrived, by the officers of the college. With the punctuality which has been well said to be the politeness of Princes, the Queen arrived very punctually, and the Royal group in the area at once moved out, accompanied by the Chancellor of the Exchequer, and the Chancellor of the Duchy, and by the Presidents of the two Colleges, to the entrance, where her Majesty was received on alighting with all the stately ceremonies and Courtly usage due to so great an occasion. A magnificent bouquet was handed to the Queen, and a procession was formed, which led her Majesty to the scene of the ceremonial in which she was to bear so important a part. Her Majesty, as usual, wore black, only slightly relieved by a single white ostrich feather in the bonnet. The formal reception was the work of the Chancellor of the Duchy and of the Presidents of the two Colleges, to whom her Majesty accorded a most gracious reception. Sir William Jenner and his colleague, Mr. Savory, led the way to the dais, where Mr. Childers and Mr. Engleheart, the Clerk of the Council of the Duchy, were waiting to receive her majesty and lead her to her chair of state. As her Majesty slowly advanced, greeted with a tremendous burst of cheering as soon as she was seen by the large assembly inside, their Royal Highnesses the Prince of Wales and the Princess Beatrice took post on her right hand, the Princess Christian and Princess Louise, and the Duke of Connaught, on her left. The august group accompanied her Majesty to her seat, and remained standing in the relative positions they had taken up. Directly they became stationary, and the cheering had subsided, the choir of the Chapel Royal, Savoy, sang the National Anthem, the assembly joining in unison with admirable effect. A prayer, somewhat quaint in diction, and most appropriate to the occasion, selected from the prayers of Francis Lord Bacon, was then offered by the Archbishop of Canterbury.

After the chanting of the Lord's prayer and the singing of a hymn, an address to the Queen from the two Presidents, Mr. Savory and Sir William Jenner, was read, to which her Majesty briefly responded. The Presidents then handed to her Majesty a short account of the origin of the proposed Hall, and a list of the members of the two corporations. Then the Treasurer gave to the Queen coins of the present year's mintage, and these were placed by her Majesty in a glass vase, which, with the assistance of the architect (Mr. S. Salter), was placed in the cavity made for its reception beneath the stone. The architect then handed a gold trowel to her Majesty, who stooped and spread the mortar on the bed stone, the Prince of Wales bringing his somewhat extended experience of such operations to her Majesty's aid. The rope of the tackle was then slowly loosened, and the stone, guided by the two masons, was lowered into position. Again the Prince of Wales came to his Royal mother's assistance showing her how to apply the square, and then the Queen, with a black ebony mallet, gave the customary three taps, and declared the stone to be well and truly laid. Loud cheers from the assembled spectators, which were taken up in sympathy by the crowd outside, followed the Royal announcement. The ceremonies concluded with the presentation to her Majesty of a number of the distinguished guests.

THE OPERATIVE TREATMENT OF FACIAL NEURALGIA.

A LONG and elaborate paper on this subject, by Dr. George R. Fowler, appears in the *Annals of Surgery* for April. Among other valuable material, it contains tabulated records of some eighty-three cases of neurectomy, in twenty-six of which Meckel's ganglion was removed, in an equal number the infraorbital nerve, and in thirteen the entire nerve-trunk from beyond Meckel's ganglion. The effects of nerve-stretching are also considered, as is the subject of carotid ligature. Eighteen cases of the latter operation, performed for trifacial neuralgia are given.

In conclusion, the author admits that, owing to the obscurity in which the morbid process underlying many of these cases is involved, it will often be found difficult to decide upon the precise operative procedure indicated. The following conclusions, however, may be advanced as the result of the experience of surgeons up to the present day:

1. Neuralgias of the fifth cranial nerve, of peripheral origin, which have resisted methods of treatment other than operative, may be expected to yield to the operation of neurectomy of the trunk or trunks whose branches are distributed to the painful area. In this class of cases the neurectomy should be carried, if possible, to the point at which the nerve makes its exit from the cranium.

2. Cases of central origin should be first submitted to a limited neurectomy, conjoined with nerve-stretching, in the hope that the process of degeneration thus set up, together with the rest gained by interrupting the centripetally conducted stimuli may favorably influence the diseased central organ. In case of relapse this may be repeated, providing the period of rest thereby gained corresponds to the length of time which Waller's investigations show to be usually occupied by the pro-

cess of degeneration and regeneration. If no relief is gained, a similar operation should be performed upon all of the divisions of the fifth nerve. This failing, a complete neurectomy of each division accessible should be done; and finally, ligature of the common carotid may be tried as a last resort.

3. In cases of doubtful origin, a complete neurectomy followed, in cases which relapse by ligature of the external and the common carotid, in turn, hold out the best prospect of cure.

4. A complete neurectomy of the second division of the fifth necessarily involves the extirpation or destruction of the spheno-palatine ganglion; and to this fact, rather than to any intrinsic tendency of the ganglion itself to keep up the irritation causing the neuralgia, is to be attributed, in all probability, any increasing immunity from relapse claimed to have been obtained in those cases in which Carnochan's operation has been performed.

5. No patient should be denied, other things being equal, the chance which any one, or all of these operations in turn may give him of escaping, even for a short time, the intolerable suffering incident to an intractable or otherwise irremediable facial neuralgia.

REPORTED MORTALITY FOR THE WEEK ENDING APRIL 10, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diph. and Croup.	Cer. Spinal Meningitis.	Scarlet Fever.
New York	1,439,039	701	204	16.94	17.08	5.32	2.66	1.40
Philadelphia	971,363	414	137	12.96	12.96	3.84	1.20	3.84
Brooklyn	690,000	—	—	—	—	—	—	—
Chicago	630,000	—	—	—	—	—	—	—
Boston	390,406	191	50	11.66	21.20	3.71	.53	2.12
Baltimore	417,220	174	73	12.54	14.82	3 .99	1.14	.57
St. Louis	400,000	—	—	—	—	—	—	—
Cincinnati	325,000	—	—	—	—	—	—	—
New Orleans	238,000	98	35	6.12	12.24	1.02	—	—
Buffalo	202,818	—	—	—	—	—	—	—
District of Columbia	205,000	91	31	16.50	16.50	1.10	1.10	1.10
Pittsburgh	190,000	65	27	19.89	13.77	4.59	1.53	7.65
Milwaukee	142,400	46	22	10.85	8.68	8.68	—	—
Providence	118,070	66	19	15.15	15.15	7.57	—	—
New Haven	78,000	—	—	—	—	—	—	—
Nashville	60,000	—	—	—	—	—	—	—
Charleston	60,145	41	13	4.88	7.32	2.44	—	—
Worcester	68,383	26	9	11.55	19.25	3.85	—	—
Lowell	64,051	37	16	16.20	13.50	2.70	2.70	—
Cambridge	59,660	18	2	—	22.22	—	—	—
Fall River	56,863	19	7	—	22.04	—	—	—
Lynn	45,861	18	3	—	22.22	—	—	—
Lawrence	38,825	12	2	—	16.66	—	—	—
Springfield	37,577	—	—	—	—	—	—	—
New Bedford	35,393	13	9	—	7.69	—	—	—
Somerville	29,922	—	—	—	—	—	—	—
Salem	28,084	8	—	—	20.00	—	—	—
Holyoke	27,894	—	—	—	—	—	—	—
Chelsea	25,709	12	5	—	25.00	—	—	—
Taunton	23,674	5	2	20.00	20.00	—	20.00	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	7	4	—	—	—	—	—
Brockton	20,783	—	—	—	—	—	—	—
Newton	19,759	5	1	—	—	—	—	—
Malden	16,407	3	—	—	—	—	—	—
Fitchburg	15,375	—	—	—	—	—	—	—
Waltham	14,609	5	2	—	—	—	—	—
Newburyport	13,716	4	—	—	—	—	—	—
Northampton	12,896	—	—	—	—	—	—	—
89 Massachusetts Towns	—	42	7	—	16.80	—	—	—

Deaths reported 2,121: under five years of age 680; principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 279, consumption 335, lung diseases 318, diphtheria and croup 88, scarlet fever 37, cerebro-spinal meningitis 31, whooping-cough 28, diarrhœal diseases 25, typhoid fever 17, malarial fever 15, puerperal fever 14, erysipelas 12, measles 11, small-pox (New York) one. From whooping-cough New York 20, Boston, and District of Columbia three each, Philadelphia and Pittsburgh, one each. From diarrhœal diseases, New York 11, Boston three, Worcester two, New Orleans, District of Columbia, Pittsburgh, Providence, Lowell and Cambridge one each. From typhoid fever, Philadelphia 10, Providence three, Lowell two, New York and Baltimore one each. From malarial fever, New York seven, Baltimore and New Orleans three each, Philadelphia two. From puerperal fever New York three, Philadelphia and Baltimore two each, Boston, New Orleans, District of Columbia, Pittsburgh, Providence, Lowell and Cambridge one each. From erysipelas, New York eight, Boston three, Pittsburgh one. From measles, Baltimore six, New York three, Philadelphia two.

Cases reported in Boston: scarlet fever 36, diphtheria 20, measles 16, and typhoid fever three.

In 107 cities and towns of Massachusetts, with a population of 1,246,491 (population of the State 1,941,465), the total death-rate for the week was 18.00 against 18.28 and 19.29 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,003,817, for the week ending March 27th the death-rate was 26.4. Deaths reported 4,603: infants under one year of age 940; acute diseases of the respiratory organs (London) 710, whooping-cough 164, measles 128, diarrhœa 32, diphtheria 28, fever 28, scarlet fever 22, small-pox (Bristol) four.

The death-rates ranged from 18.3 in Hull to 40.2 in Plymouth; Birkenhead 20.0; Birmingham 24.7; Bradford 23.3; Leeds 24.6; Leicester 24 7; Liverpool 27.4; London 26.9; Manchester 31.0; Nottingham 26.6; Preston 30.9; Sheffield 22.3; Sunderland 19.6.

In Edinburgh 23.8; Glasgow 30.6; Dublin 34.6.

For the week ending March 27th in the Swiss towns, there were 48 deaths from lung diseases, consumption 47, diphtheria and croup six, whooping-cough six, small-pox three, puerperal fever three, scarlet fever two, erysipelas two, measles and typhoid fever each one.

The death-rates were: at Zurich 19.1; Geneva 18.2; Basle 23.7; Berne 36.4.

The meteorological record for week ending April 10, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps. —

Week ending Saturday, Apr. 10, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday,... 4	30.228	32.2	38.1	26.9	65.0	64.0	76.6	68.3	N.	S.E.	S.W.	11	12	4	O.	O.	O.	—	—
Monday,.. 5	30.261	36.3	40.0	31.3	77.0	66.0	87.0	76.7	N.E.	S.E.	E.	4	8	10	F.	O.	R.	—	—
Tuesday,.. 6	29.760	36.5	41.2	33.8	100.0	100.0	100.0	100.0	E.	E.	N.E.	32	43	16	R.	R.	R.	—	—
Wednes,.. 7	29.808	36.2	42.9	33.3	100.0	91.0	90.0	93.7	N.E.	N.E.	N.E.	4	12	12	G.	O.	C.	—	—
Thursday, 8	29.628	34.8	40.1	30.2	88.0	81.0	70.0	79.7	N.W.	E.	N.	9	4	9	O.	O.	C.	—	—
Friday, ... 9	30.130	49.5	63.9	31.2	66.0	37.0	48.0	50.3	W.	N.W.	W.	8	12	10	C.	C.	C.	—	—
Saturday, 10	30.148	51.8	66.1	41.3	49.0	31.0	59.0	46.3	W.	N.W.	N.	10	20	14	C.	F.	C.	38	1.49
Mean, the Week.	30.052	39.6	47.5	32.6				73.6											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM APRIL 10, 1886, TO APRIL 16, 1886.

PATZKI, J. H., captain and assistant surgeon. Relieved from duty at Jackson Barracks, La., and ordered for duty as post surgeon at Mt. Vernon Barracks, Ala. S. O. 75 Department East, April 12, 1886.

HOFF, JNO. VAN R., captain and assistant surgeon. Leave of absence extended eleven months, with permission to leave the United States. S. O. 85, A. G. O., April 12, 1886.

BARNETT, RICHARDS, captain and assistant surgeon. Granted leave of absence for two months. S. O. 16, Division of the Atlantic, April 12, 1886.

BIRMINGHAM, H. P., captain and assistant surgeon. (Camp Grant, New York City), temporarily assigned to duty at Fort Columbus, New York Harbor. S. O. 72, Department East, April 8, 1886.

WALES, PHILIP G., first lieutenant and assistant surgeon. Granted leave of absence for two months. S. O. 85, A. G. O., April 12, 1886.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING APRIL 13, 1886.

CRAWFORD, M. H., passed assistant surgeon. Detached from the "Shenandoah" on the 8th inst., and wait orders.

RUSH, C. W., assistant surgeon. Detached from the "New Hampshire" on the 15th inst. and ordered to United States Revenue Steamship "Franklin."

SOCIETY NOTICES.

NORFOLK DISTRICT MEDICAL SOCIETY.—A meeting for Scientific Improvement will be held at Room 7, Palladio-Hall Building, corner of Warren and Dudley Streets, Roxbury, April 27, at 7.45 P.M. Communications: I. "A Case of Tetanus," H. P. Mansfield, M.D. II. "Writers' Cramp," I. H. Hazelton, M.D. The discussion will be opened by Seranus Bowen, M.D. III. Exhibition of fœtal bones, taken from a case of combined extra-uterine pregnancy and dermoid cysts, Edw. G. West, M.D. Members of other Districts are welcomed.

S. ALLEN POTTER, M.D., *Secretary*.

SUFFOLK DISTRICT MEDICAL SOCIETY.— The annual meeting will be held at 19 Boylston Place, on Saturday, April 24, 1886, at 7.45 P.M. Papers: Dr. James R. Chadwick, "Cases of Atresia of the Genital Canal." Dr. A. L. Mason, "Clinical Cases." Incidental Business: Reports of the Treasurer, Librarian, the Committee on Social Meetings, and the Nominating Committee. Election of Officers. Supper after the meeting.

CHARLES M. GREEN, *Secretary*.

NOTICE.

Arrangements have been made by the Fitchburg R. R. Company for special rates from Boston to St. Louis and return, in connection with the meeting of the American Medical Association. Palace sleeping-cars, the "New Zealand" and "Lancaster," are run via. this line and Niagara Falls to St. Louis, leaving Boston at 3 P.M. daily, arriving at St. Louis the second morning at 7 o'clock. Those who pay the full fare to St. Louis can secure return tickets for one-third the usual rate. Delegates who may choose this route are invited to send their names to J. R. Watson, General Passenger Agent, who will have sleeping car accommodations assigned for them.

The Boston and Albany R. R. will, upon application at their office, 232 Washington St., Boston, sell to delegates and *their families*, tickets to St. Louis for one and one-third fares for round trip. A parlor-car to run through from Boston to St. Louis without change will be attached to the train leaving Boston at 3 P.M., May 1st.

BOOKS AND PAMPHLETS RECEIVED.

A Reference Handbook of the Medical Sciences, embracing the entire Range of Scientific and Practical Medicine and Allied Science. By Various Writers. Illustrated by chromo-lithographs and wood engravings. Edited by Albert H. Buck, M.D. Vol. II. William Wood & Co. New York.

A Bill to Promote Mendicancy. Facts and Figures showing that the South does not need Federal Aid for her Schools. (A Reprint of Editorial Articles published in the New York Evening Post during January, February and March, 1886.) New York Evening Post Publishing Co. 1886.

Practical Clinical Lessons on Syphilis and the Genito-Urinary Disease. By Fessenden N. Otis, M.D., Clinical Professor of Genito-Urinary Diseases in the College of Physicians and Surgeons, New York, etc. New York: Printed for the Author. 1886.

The Disorders of Menstruation: A Practical Treatise. By John N. Upshaw, M.D., Professor of Materia Medica and Therapeutics in the Medical College of Virginia. Richmond, Va. New York and London: G. P. Putnam's Sons. 1886.

Insanity in Vermont, 1835-1885. By J. Draper, M.D., Superintendent Vermont Asylum for the Insane, Brattleboro, Vt. (From the Transactions of the Vermont State Medical Society, 1885.)

Intubation of the Larynx, with History of Cases. By F. E. Waxham, M.D. (Reprinted from the Chicago Medical Journal and Examiner, March, 1886.)

Fractures of the Coracoid Process. By J. Wellington Byers, M.D. Charlotte, North Carolina. (Pamphlet) Hirst Printing Co. 1885.

Report of a Case of Cæsarean Operation with some Comments. By Edward W. Jenks, M.D., Detroit. (Reprint from Vol. X., Gynæcological Transactions, 1885.)

Two Cases of Laparo-Elytrotomy, with Remarks. By Charles Jewett, A.M., M.D., Brooklyn. (Reprint from Volume X, Gynæcological Transactions, 1885.)

Southern Florida a Winter Sanitarium. By Wm. A. Edwards, M.D. (Reprinted from the Philadelphia Medical Times for March 6, 1886.)

Supernumerary Mammary Glands and Nipples: Three Cases. By Wm. A. Edwards, M.D. (Reprint from Medical News, March 6, 1886.)

Tetanus. Lecture delivered at the College of Physicians and Surgeons, Chicago. By N. Seavy, M.D. Milwaukee, Wis.: 1886.

Ueber Prolapsoperationen, von A. Martin. Separatabdruck aus der Deutschen Medicinischen Wochenschrift. No. 2. 1886.

Dartmouth Medical College. Ninetieth Annual Course of Lectures. Hanover, N. H. 1886.

Original Articles.

SHOULD NURSES WHO ARE TUBERCULOUS BE ALLOWED THE CARE OF CHILDREN?[1]

BY W. W. GANNETT, M.D., OF BOSTON.

To prevent any misapprehension, it may be stated that the term nurse, as here used, does not include wet-nurses, but is intended to apply to those having the ordinary care of children.

Although the question of the transmissibility of tuberculosis is by no means a new one, yet the general opinion in the past has been that tuberculosis was not to be regarded as a contagious disease, and that attendance upon one ill with this disease was not likely to lead to its reproduction in a nurse, or members of a family having the care of such a person.

Recently, however, cases have been reported in which the suggestion was direct that tuberculosis had been transmitted from man to wife, or *vice versa*, such transmission occurring either through the sexual apparatus, the one locally infecting the other; or through the air passages, the air inspired by the healthy spouse having been rendered infectious by the diseased one.

The question to which your attention is called to-night, is one which, so far as the writer knows, has not yet been discussed, and relates to the possibility of children becoming tubercular by direct infection from their nurses, who are already tubercular.

It may not be expedient to separate a man and wife, the one being tubercular, or to isolate a member of a family in a like condition; but the readiness with which one can discharge or make other provision for a nurse-maid who may be tubercular is so apparent, that no objection can be urged against removing from children this possible source of infection.

Before describing the two cases which directed the writer's attention to the subject of the paper, a few preliminary points will be mentioned.

From the time of Villemin's inoculation experiments in 1865, to the publication of Cohnheim's paper on the "Infectious Nature of Tuberculosis," in the latter part of 1879, the arguments in favor of the idea of tuberculosis being an infectious disease had become so numerous and convincing, that only the climax of Koch's discovery of the tubercle bacillus was needed to place the disease among those classed as infectious; by which is meant a disease brought about by the introduction into the system of a material capable of reproducing itself, capable of transfer in the organism, and capable, by its presence, of setting up tissue changes, which are often of a specific character, and are closely allied to inflammatory processes. In the present state of knowledge, these requirements can be fulfilled only by micro-organisms.

The isolation of the tubercle bacilli, their pure cultivation outside the body, in appropriate media, for repeated generations; the never-failing reproduction of tuberculosis in many of the lower animals by inoculation with micro-organisms so cultivated, are sufficient proof that tuberculosis is an infectious disease, and that Koch's tubercle bacillus is the infective agent, although the manner in which it acts is not known.

Granting, then, that tuberculosis is an infectious disease; granting, further, if you will, that the infective agent is Koch's tubercle bacillus, then it, of necessity, follows that tubercle bacilli are present in every case of tuberculosis, in its active stage, at least.

If, then, tubercle bacilli cause tuberculosis, and if in every case of tuberculosis tubercle bacilli are present, then every individual who is tuberculous must in his organism have the necessary factors for causing tuberculosis. Further, if the tubercular lesion is so situated that the tubercle bacilli may, by any channels, be set free from the body, then that individual becomes a possible source of infection to those around him; and if the bacilli find lodgement, and develop in another person in whom a favorable soil is present, that second person thereby becomes tubercular.

In the sputa of those whose lungs are the seat of a chronic tubercular process, and in the expired air of the same individuals, tubercle bacilli are present. Such sputa expectorated on a handkerchief, in a vessel of any sort, or upon the floor, readily dry, and the bacilli may be floated in the air.

Hence it follows that patients with chronic tuberculosis of the lungs are a possible source of danger to those around them, through the medium of their expired air and their sputa.

Your attention is now asked to two fatal cases of tuberculosis occurring in young and previously healthy children, with no hereditary predisposition to the disease, surrounded by otherwise good hygienic conditions, but who were both for a considerable time under the daily care, and for a shorter period, under the daily and nightly care, of nurses who were tubercular.

In connection with the cases, two questions arise: First, can it be proven that the infection of the children resulted from association with their nurses? Second, on the ground of probabilities, is such an inference allowable? To the first question a negative answer must be given; to the second, a consideration of the facts leads the writer to an affirmative.

If this conclusion be a warrantable one, then it behooves parents to use especial care in the selection of nurses, lest they be tubercular, calling the aid of a physician, if need be, to decide the point; and further, to remove at once children from the care of a nurse, who, during her service, shows the least evidence of beginning tuberculosis.

CASE I. A child of four years, eleven months, previously healthy, except for occasional attacks of tonsillitis, dies under symptoms of meningitis, after an illness of three weeks. [For a full account of the clinical report of the case, see report by Dr. Jacques in the *Boston Medical and Surgical Journal*, July 2, 1885.] The autopsy was made by the writer eighteen hours after death.

Diagnosis. Tubercular meningitis; acute hydrocephalus; acute ependymitis; tuberculosis of velum interpositum; chronic, circumscribed, tubercular broncho-pneumonia; chronic tuberculosis of the bronchial lymph-glands; miliary tuberculosis of the spleen; tubercular ulceration of a slight degree of the intestine. Body medium-sized (for age); well developed; much emaciated; slight lividity of dependent portions; rigor mortis present.

Nothing unusual was observed about the calvaria or dura; the sinuses of the latter contained partly coagulated blood. The pia of the convexities of the brain very dry; the vessels minutely injected. The convolutions flattened, the sulci obliterated. The pia of the base along the chiasma, and in the fissures of Sylvius,

[1] Read at the Boston Society for Medical Improvement, April 19th, 1886.

was thickened, and opaque yellowish-gray, from the presence of fibrino-purulent material in its meshes. In the above situations, also on the under surface of the frontal and temporal lobes; also on the pons and inner borders of the occipital lobes, were to be seen very numerous, gray, translucent nodules, the size of a pin's head. The lateral ventricles contained each about fifty c.c. of a slightly opaque fluid. The ependyma thickened, grayish, and opaque. The choroid plexuses and velum interpositum markedly injected. In the latter, were to be seen several small nodules, similar to those described in connection with the pia of the base.

Section of the hemispheres showed nothing remarkable, the puncta cruenta being of the usual size and number.

The basal ganglia, pons, medulla, and cerebellum showed no appearances worthy of special note.

The heart of the usual size, and so far as its valves, cavities and muscular substance are concerned showed nothing unusual.

The pleural surfaces on both sides free from adhesions; the pleural cavities contained no fluid.

Both lungs retracted; everywhere crepitant except at the apices, where small nodules could be felt within the lungs.

On section at the top of the left lung, was an opaque, grayish-yellow, cheesy nodule the size of a pea, surrounded by a narrow border of gray, translucent tissue. At the top of the right lung were several closely aggregated nodules of a similar appearance, forming, together, a mass the size of a small walnut. Otherwise the lungs showed nothing remarkable.

A microscopic examination of these nodules, after hardening, showed the central portion to be finely granular, cheesy; the peripheral gray translucent zone to be made up of numerous well-marked tubercles, with giant-cells, the neighboring alveoli containing round cells.

The bronchial lymph-glands were enlarged to the size of filberts, showing on section a yellowish, opaque, crumbling material.

The spleen was of the usual size, color, and density. On section, follicles and trabeculæ fairly distinct; pulp firm, pale-red in color. Two or three gray, translucent sharply defined, slightly projecting nodules, the size of the prick of a pin were to be seen.

Kidneys not remarkable.

In the lower third of the ileum were several circumscribed losses of substance of the mucous membrane; the edges elevated, the bases granular.

Liver showed nothing unusual.

Although no examination for the tubercle bacilli was made in this case, yet they were doubtless present, as the appearances in the organs were so characteristic of tuberculosis as to leave no doubt as to the correctness of the diagnosis.

Attention is now called to those points in the case which may throw light upon the origin of the tuberculosis, and relate to the antecedents of the child and its relations to its nurse.

Family History: — The paternal parent, grandparents, great grandparents and all collaterals, so far as known, were free from tuberculosis. The maternal parent, grandparents and great grandparents were also free from tuberculosis. Among the collaterals a possible case of tuberculosis exists. It is a great aunt now living at the age of seventy-two, who is said to have been delicate since her twentieth year, and is said to have a posterior curvature of the spine, which may be due to Potts' disease. The child in question was remarkably healthy as a baby, was nursed at the mother's breast until nine months old, from then till the eighteenth month had cows' milk in addition to other food, but after this period took scarcely any milk. At the age of fourteen months the child came under the care of the nurse in question. She was a Prince Edward's Island woman, then about twenty-six years old, of a healthy appearance, though rather pale. She had lost one sister of consumption, but any further details of her family history are not now obtainable. This nurse remained in the family caring for the child a period of three years and five months, from the fourteenth to fifty-fifth month of the child's life.

The first two years of the nurse's term of service were spent in Europe, the parents travelling. During this time the child was in the care of the nurse daytimes, sitting much in her lap with his head on her left shoulder. She was an excellent story-teller, and for hours the child would sit in this position listening to her tales. The mutual affection became in this way very strong. At night the child slept with his parents. The nurse was apparently cleanly in her person and habits, and during her stay abroad was well, so far as known, except for occasional dyspepsia.

On the return from Europe a similar method of life was carried out.

When the child was four years and two and a half months old the parents made a journey leaving the child in the sole charge of the nurse, it sleeping with her at night as well as being in her care during the daytime. This was from early in May till the twenty-second of July.

In June of this period she consulted a well-known physician in Boston for emaciation, cough, and loss of strength. He found evidences of consolidation at one of the apices. After the return of the parents the child continued under the constant care of the nurse until the latter part of August, when, from increasing weakness, she became unable to do her work and was sent to Colorado Springs, where she still remains.

It was in December, four months after the separation of the child and nurse that the fatal illness occurred.

It can be positively stated in regard to the nurse that there were evidences of consolidation of the apex of one lung, but whether this was a tubercular process and whether or not tubercle bacilli were present in the sputa cannot be shown, but the chances are greatly in favor of an affirmative answer to both questions. It is also certain that the child was brought into the closest contact with the nurse during a period of three months when the latter was known to have disease of the lungs. How much further back than June the nurse's disease is to be dated it is impossible to say, but probably several months.

To return to the results of the autopsy. It showed definitely that the child died of tuberculosis. Does it give information in regard to the channel through which the infective material reached the body and in regard to the length of time that the process had been going on? It seems to the writer that there is both direct and indirect evidence in favor of the primary invasion having been through the lungs; direct, in that the tubercular process in the lungs and bronchial lymph-glands was the oldest found in the body; indirect, by exclusion, which may be explained as follows:

The presence of tubercle bacilli in the body may be accounted for, in general, in the following way:

First. By direct transmission in utero from the mother.

Second. By introduction from without during extra-uterine life. Under this latter head the avenues are as follows:

(*a*) By food, as milk, or through the agency of any articles put into the mouth on which tubercle bacilli are present.

(*b*) Through the genito-urinary tract.

(*c*) Through wounds of the external surface.

(*d*) Through the lungs by means of the inspired air.

Granting for the moment that it is possible for a tuberculous mother to transmit bacilli to her child in utero, this source is not possible in the present case, for neither the mother nor more remote generations are or were tubercular.

The bacilli could not have gained entrance by the milk during the first nine months of extra-uterine life, for the child had only its mother's milk, and she was not tubercular. It is *possible* that the infection occurred later through the alimentary canal, but not *probable*, in that the intestinal changes were slight and not of very long duration.

Entrance through the genito-urinary tract may be excluded in this case.

No evidence of an earlier external wound or peripheral cheesy focus could be found about the body of the child, although a careful search was made at the autopsy. Hence by exclusion of other avenues of infection, the air passages become the probable avenue.

Granting that the infection occurred through the air-passages, the inspired air then becomes the carrier of the infective agent, that is, it carried suspended in it tubercle bacilli. The next question is as to the source of the tubercle bacilli. It has been shown that the nurse had a process, probably tubercular, going on in the lung, hence she might have furnished the tubercle bacilli: moreover, there is no other known source in the child's surroundings, although it is of course possible that both nurse and child were infected from a third and common source.

It is here that the weak points in the argument come in, in that it cannot be proven that the nurse was discharging tubercle-bacilli from her lungs, although this is very probable; nor can it be proven that the bacilli from the nurse's lungs were the actual bacilli which entered the child's lung.

These are questions of probability, of a greater or less degree, and the facts having been stated as above, each hearer must decide according to his personal equation of scepticism, if one may be allowed the term. The writer cannot but feel, however, that the probabilities are in favor of the child having been infected by the nurse.

One more point is to be mentioned. The child was not associated with the nurse during the last four months of its life, and died of an acute disease of only a few weeks duration. This, however, is in no way an argument against the idea of the infection having occurred from the nurse; for meningeal tuberculosis is always a secondary infection, and finding it, one always looks in other parts of the body for an older tubercular process. This was to be found in this case in the lungs and bronchial lymph-glands, and there was internal evidence that the process in the latter situations had been going on for months rather than weeks. Hence, so far as time is concerned, the infection might have arisen from the nurse.

The second case is that of a child dying at the age of eighteen months, after an illness of four to six weeks, the details of which, together with the appearances of certain of the organs removed post-mortem will be mentioned later.

Family history: On the father's side there had been no case of tuberculosis for three generations in the direct line. Among collaterals a great aunt died of this disease, after having nursed her husband, who had died of this disease. This was the only case among families that had been unusually large.

A cousin of the mother died of phthisis, but in the direct line no case has occurred, and this is the only one among collateral branches.

The child was the youngest of three, and of a good constitution. The nurse of this child was a Scotch woman, twenty-two years old, of slender build, with round shoulders and flat chest, and had all her life been subject, at intervals, to coughs and colds. Of her family history nothing is known. She became nurse to the child when he was six weeks old and remained in this capacity till he was sixteen months old, leaving six weeks before his death. During the earlier part of her stay she was well except for occasional colds, but during the last four months she failed in strength, became pale and had a cough. Her leaving the family was due to inability to do her work on account of failing health and strength. She was examined by a physician here, who stated that she was in a "bad way." This probably means that he found evidences of disease of the lung; for the girl at once returned to Scotland, where, upon her arrival, she was examined by a physician who found undoubted signs of pulmonary disease. She has since steadily failed in strength, and at last accounts was too weak to leave the house.

From the time of the nurse's coming to the family in April, 1884, up to March, 1885, a period of eleven months, the child was in her care during the day, but did not sleep with her. She held him much in her arms with his head on her shoulder, and kissed him a great deal.

For a period of two months, from March to May, 1885, owing to the illness of its mother, the child was removed to its grandmother's house and was cared for constantly, day and night, by this nurse.

When the mother again saw the child, May 17th, two months having elapsed since she last saw him, she was struck by the change in his appearance. The eyes were unusually glistening, the skin clear, and white, both cheeks showing a pinkish hue. The nurse had also failed markedly.

This was May 17th, seven weeks before the death of the child. Soon after a cough ensued, which became severe, and on June 12th, a diagnosis of whooping-cough was made by a specialist in children's diseases.

Already symptoms referable to the central nervous system had set in. On June 15th the child had been first noticed to throw its head back and to utter a shrill cry; these symptoms attracted attention at once as the child had always been of a quiet disposition. These symptoms, with restlessness, continued. From July 1st to July 9th, the date of its death, there were three or four convulsions; deviation of the eyes; head drawn back much of the time, or else bored into the pillow, and great restlessness. Death.

The father, a doctor of medicine, though not a practitioner, feels confident that there was meningitis.

An autopsy was made, and the two specimens which will be shown, were brought to the writer for diagnosis, especially with reference to tuberculosis. They consisted of the lower portion of the trachea and upper portions of both bronchi, surrounded by a mass of enlarged and cheesy lymph-glands; also a small piece of the liver.

An examination of the cheesy material of the bronchial lymph-glands by Ehrlich's method showed the presence of tubercle bacilli. The liver was found by microscopic examination to contain very numerous miliary tubercles.

The lungs were described as dark, firm, non-aërated, with a few emphysematous patches, also numerous cheesy nodules scattered through the lungs. The first description might apply to an atelectasis, or a recent pneumonia. The cheesy nodules represents in all probability the result of a chronic tubercular bronchopneumonia.

The brain was not examined.

That the case was one of tuberculosis admits of no doubt. The tubercle bacilli in the bronchial lymph-glands and the miliary tubercles in the liver are sufficient proof of this.

As to the means of introduction of the bacilli, it probably occurred through the air passages, as in the other case, the same argument holding here as there, except with reference to the alimentary tract, about which there is no information in this last case.

As to the source of the bacilli, here, as in the other case, no definite one can be found except the nurse. That she was tuberculous, or at least had disease of the lungs, while caring for the child by day and night, admits of but little doubt, in that she had to give up this service on account of failing health and strength, a t a time just after she had been in the closest contact wi,h the child.

The writer thinks that the remarks made in connection with the first case apply also to this one.

In conclusion, the writer wishes to state again that he does not believe that the facts alleged prove that the children were infected by their nurses, but he does believe that the facts show a sufficient degree of probability of such infection as to render it important for physicians to caution the laity about allowing children of a tender age to come into too close or frequent contact with nurses or others who are tubercular.

A SUCCESSFUL CASE OF LAPAROTOMY FOR PERITYPHLITIC ABSCESS.[1]

BY JOHN HOMANS, M.D.,

Instructor in Harvard University in the Diagnosis and Treatment of Ovarian Tumors and Visiting Surgeon to the Massachusetts General Hospital.

IN the *Medical Record* of March 6th, 1886, appeared an excellent article by Dr. W. T. Bull on the subject of early interference in cases of perityphlitic abscess. The case upon which I have lately operated is one of earlier interference than that of Dr. Bull if we date from the first symptom of pain, but a later one by about a day if we date from the time the patient took to his bed. At the same time as my patient was a boy of eleven, he may not have remembered his symptoms and the duration and locality of his pain as well as an adult would have done. Dr. J. S. Greene, of Dorchester, was called to see the boy on Saturday evening, January 9th, 1886. I operated on Monday, January 11th. Laparotomy was done without previous aspiration, over the most tender point, which was one and a half inches above and a little posterior to the right antero-superior spine of the ilium. You will notice that this laparotomy was done within forty-eight hours of the doctor's first visit, and while the patient had been in bed less than four days. The very first reported symptom of pain and uneasiness had appeared within five days. All the cases of acute perityphlitis that I had seen demonstrated by dissection had been at autopsies, and death had usually taken place about a week after the first symptom had appeared. Dr. Greene and I decided not to wait for the autopsy. Dr. Bull's patient had a steady, dull pain in the inguinal region for ten days before he took to his bed, so that if we date from the period of decubitus, Dr. Bull's operation is the earlier, if from the first symptom of disturbance mine is the earlier. But this is a question of little importance, and as I have hinted above, the boy may have had a dull ache and not have mentioned it. The point which Dr. Bull and I would agree in urging upon the profession is that in most of these cases an operation to be of any service must be done *early, very early.* I could not find a very dull place in which to pass a needle and so I thought it more intelligent to dissect down through the locality of greatest tenderness. I think the wisdom of this was shown by the operation, for I came down first on perfectly healthy bowel and it was only by separating and poking the loops of intestine apart that I was able to open the abscess. If I had thrust in the needle at the point where I made the incision I should have perforated the bowel at least four times before I could have struck the collection of pus and then I might have missed it. If I had aspirated just below the kidney in the right loin I should have hit the right spot, and perhaps this would have been better surgery in point of drainage and as not opening the peritoneum. However, as the patient was cured, it may be that my incision was as well placed as one further behind would have been. I will give you the history of the case that you may understand it more clearly. The patient was a boy eleven years old, never robust. On Wednesday, January 6th, he had some pain in the bowels, on Thursday more pain, but he kept about; on Friday his pain became worse and he called attention to it and remained in bed. On this day he had a dejection; Dr. Greene saw him on Saturday evening, the 9th, and found him in bed with a pulse of 120, and a temperature of 102.4°. His tongue was coated white. There was dulness on percussion over the right iliac and lumbar regions with the centre of tenderness about one and a half inches above the anterior spine of the ilium. There was no swelling. The other parts of the abdomen were somewhat compressible. Morphia was given and a poultice applied. On Monday, the 11th, the pulse was more frequent and the abdomen less yielding. Small quantities of liquid nourishment had been taken and retained. Dr. Greene called me to see the patient in the afternoon, and I performed laparotomy at the point above mentioned. No spray was used. An incision was made and the peritoneum opened; the healthy bowel presented itself; on passing my finger below and behind the presenting loops I felt

[1] Read before the Surgical Section, Suffolk District Medical Society, April 19, 1886.

coils of intestine filled with fæcal masses, or perhaps also enlarged glands. The loops of intestines were adherent to each other by a recent plastic process and by poking about with my finger and separating them I opened an abscess and about two ounces or more of foul smelling ("rotten egg") pus welled up out of the wound; so far as we could, we prevented the pus from running in among the coils of intestine and after emptying the abscess as well as possible, a double rubber drainage tube was passed into the cavity and the incision closed around the projecting ends of the india-rubber tube. The boy did not sit up out of bed till February 3d, about three weeks after the operation. His temperature varied from 99 to 102.9° and he required opiates for four days. His bowels moved on January 15th. The wound discharged freely for a fortnight and united by granulation. He is now well, hearty and strong and is gaining flesh. There is not the least tendency to hernia, but I have had an elastic abdominal supporter fitted, as I always do after a recovery from laparotomy from whatever purpose done.

[Dr. Homans now showed the boy undressed.] As you see, the boy is fat and strong, and here is the cicatrix of the operation.

The credit of the cure belongs more to Dr. Greene than to me, as I was only his instrument in the case.

LOCALIZED AMYLOID DEGENERATION; AMYLOID LYMPHOMA. (?)

BY REGINALD H. FITZ, M.D.,
Shattuck Professor of Pathological Anatomy, Harvard University.

IN the report[1] of a late meeting of the Boston Society for Medical Improvement it is stated that an amyloid submaxillary tumor was shown to the Society.

Owing to the extreme rarity of the affection it seems desirable that a more detailed description should be given of the characteristics of the case. Mr. G. H. Francis of the Massachusetts General Hospital, has sent all the data there recorded. These were collected before the importance of the growth was fully appreciated. An attempt to obtain further information from the patient, after discharge, was unsuccessful.

She was an adult who had always been well. Three years ago she noticed a small, hard lump just below the jaw, and about an inch in front of the angle. The growth was very slow, and until within four months was of the size of a walnut. When she entered the Hospital the external tumor was about three-quarters of the size of a hen's egg. An operation for its removal was successfully performed by Dr. A. T. Cabot. He found the growth deeply seated but not closely adherent to the surrounding tissues.

The specimen was an elongated, globular, coarsely lobulated mass, about the size of a pigeon's egg, and of a density suggesting that of cartilage. The surface was smooth from the presence of a thin, fibrous capsule. The cut surface was smooth, homogeneous and translucent. Its color was a pale, reddish-gray sprinkled with occasional irregular, small, opaque, yellow spots, and became of a darker red on prolonged exposure to the air. The cut surface was streaked here and there with opaque gray lines. When a solution of iodine was applied, dark, reddish-brown patches appeared.

Sections of the fresh specimen were examined with the microscope. Numerous rounded and elongated patches and streaks of a homogeneous glistening appearance were seen. These become of a carmine tint when stained with methyl-violet, and of a blue color when treated with iodine and sulphuric acid.

After the tumor had been preserved for some days in alcohol, sections were prepared for microscopic examination. Although the greater part had undergone the amyloid degeneration certain portions still showed structural details. Numerous round cells corresponding in size with white blood-corpuscles, and for the most part with a single, relatively large, nucleus, were grouped together more or less abundantly, but without closely simulating known typical structures. The cells were occasionally accumulated in rounded and elongated cavities with a thin smooth wall, suggesting lymph vessels. There was but little intercellular substance and this was homogeneous or fibrillated, not definitely reticulated. Arteries and veins were readily recognized. There were no epithelial structures to be seen.

When iodine was added to the sections from the alcoholic specimen these became dark-brown in patches but elsewhere assumed a brick-red color. This difference in reaction corresponded with a variation in the distribution of the hyaline material. The dark-brown patches were the rounded masses, with indented border, at first suggesting concretions sharply defined by the surrounding fibrous tissue. When stained with lithium-carmine these apparent concretions were found to be traversed by rare delicate capillaries and more frequent lines of elongated cells with occasional fibres. The brick-red portions were composed of the hyaline material in the form of an irregular net-work of coarse lines between which were unaltered fibres and cells.

The micro-chemical examination of the tumor thus confirmed the diagnosis of amyloid degeneration indicated by the macroscopic reaction with iodine. The nature and origin of the tumor was less apparent. Its shape, size and seat suggested a lymphoma. The absence of epithelial structures and the presence of abundant cells resembling leucocytes favored this view. The arrangement of cells though not characteristically lymphadenoid, more nearly resembled that of a lymphatic gland than of any other normal structure. The presence of degenerated lymph-follicles was directly suggested by the amyloid clumps already described.

The occurrence of localized amyloid disease is well recognized in all the recent works on pathological anatomy. It is stated to have been found in old blood-clots, in endocardial thrombi, and in a nodule of old hæmorrhagic infarction. It has been observed in syphilitic scars, chronic ulcers, tumors of the larynx and conjunctiva (trachoma) and in cancer of the stomach. Its presence in keratitis and in degenerated cartilage has also been noticed. Virchow[2] found evidence of amyloid disease of lymphatic glands near diseased bone. Amyloid axillary glands were observed by Billroth[3] near a carious shoulder-joint in a tuberculous patient in whom there was no amyloid disease elsewhere. Birch-Hirschfeld[4] states that he found amyloid lymphatic glands in the mesentery of a person who had recovered from typhoid fever. The only recorded case analogous to the one here reported is that observed by Billroth.[5] The patient, a female, was twenty-eight years old, and for eleven years had a tumor of the

[1] Journal, 1886. CXIV, 158.

[2] Virchow's Archiv. 1885. viii, 366.
[3] Beiträge zur Path. Histologie, 1868. 177.
[4] Lehrbuch der Path. Anatomie, 2 aufl. 1882, I, 46.
[5] Loc. cit. 186.

right side of the neck. It had gradually become as large as a goose-egg, and then remained stationary for several years. The gross characteristics, the microscopical appearances and the chemical reactions correspond closely with these features as observed in Dr. Cabot's case.

There can be no reasonable doubt that the cases are identical in character. The presumption of the lymphomatous nature of the submaxillary tumor becomes strengthened by its resemblance to the cervical growth. In the latter, Billroth found in a few places a distinctive lymphadenoid structure.

THE OPERATION OF SHORTENING THE ROUND LIGAMENTS, WITH TWO CASES.[1]

BY F. B. HARRINGTON, M.D.

CAROLUS STEPHANUS, an anatomist of the sixteenth century, is said to have discovered the round ligaments of the uterus.

Gray [2] says: "The round ligaments are two rounded cords, between four and five inches in length, situated between the layers of the broad ligament in front of and below the Fallopian tube. Commencing on each side at the superior angle of the uterus, this ligament passes forward and outward through the internal abdominal ring, along the inguinal canal to the labia majora in which it becomes lost. The round ligament consists of areolor tissues, vessels and nerves, besides a dense bundle of fibrous tissue and muscular fibres prolonged from the uterus, inclosed in a duplicature of the peritoneum, which, in the fœtus, is prolonged in the form of a tubular process for a short distance into the inguinal canal."

Rainey [3] believes that the principal function of these ligaments is to draw the uterus towards the symphysis pubis during sexual intercourse, and thus favor the ascent of the semen. He says, "The so-called round ligaments of the uterus, regarded as a muscle, may be said to arise by three fasciculi of tendinous fibres, the inner from the tendon of the internal oblique and the transversalis is near to the symphisis pubis: the middle (fasciculus) from the superior column of the external ring near to its upper part, and the external fasciculus from the inferior column of the ring, just above Gimbernat's ligament. From these attachments the fibres pass backwards and outwards, soon becoming fleshy. They then unite in a rounded cord, which passes through in front of the spermatic artery. It then gets between the two layers of the perinæum, forming the broad ligament, along which it passes backwards, downwards, and inwards to the anterior and superior part of the uterus, into which its fibres, after spreading out a little, may be said to be inserted.

Dr. James A. Adams [4] says, "Besides muscular tissue there is an abundance of fibro-areolar tissue intermixed." Adams believes that the round ligaments are active during parturition, fixing and maintaining the uterus in due relation to the pelvis.

During pregnancy, as is well-known, the round ligaments are much enlarged, and there is an increase of muscular development.

Alquié, a French surgeon, in 1840, proposed and discussed with details the operation of shortening the round ligaments. The proposition was condemned, and attracted little or no favorable attention. There were no operations on living subjects. Aran, Deneffe, Soupart, Burggroeve, Revington, Freund, Schultze, and Adams subsequently proposed the same operation.[5]

Dr. William Alexander, on December 14, 1881, successfully operated on a case of prolapsus uteri by pulling out and shortening the round ligaments. Since that time he has operated upon a large number of cases with good results. Dr. Alexander, although not the originator of the operation, is the surgeon to whom the credit of its first repeated and successful performance is due.

The result of drawing out the round ligaments through the external abdominal rings is to lift the uterus and broad ligament upward and forward. With a movable uterus this can, almost without exception, be accomplished. Backward displacements and prolapse of the uterus can thus be corrected. What now is needed is the testimony of operators regarding the difficulties, the dangers and the final results of the operation. After considering the statistics, and from a limited personal experience, I should say that the operation was one of great merit in appropriate cases.

I have been able to find reports of one hundred and forty cases by twenty-one operators. Sixteen of these twenty-one operators, who operated upon one hundred and twenty-six of the cases, look upon the operation with favor. Four operators, who have had nine cases, are in doubt as to the value of the operation, or express no opinion. Two operators, who have had five cases, look upon the operation with disfavor because of the difficulties, the dangers, or the poor results.

Three deaths, as the result of the operation, have been reported. One of these occurred in the practice of Dr. Alexander. The patient died with signs of pyæmia, due, he thinks, to a lack of care and cleanliness. Dr. Coe [6] reported an autopsy in which death followed an operation on the round ligaments. There had been sloughing of the round ligaments and pyæmia. There was no peritonitis. A third death occurred in the hands of a Liverpool surgeon, and is referred to by Dr. Alexander as the result of pyæmia.

Doléris (*loc. cit.*) thinks that Alexander [7] makes too little of the difficulties and dangers of the operation. Mundé failed to find the ligaments in three out of six cases. Alexander has never failed to find them. In one case, a ligament which he could not find was afterwards discovered at a later operation. Dr. Imlach never failed to find the ligaments in thirty-six cases. Alexander, before the British Gynæcological Society,[8] said: "The operation is a delicate one, and quite different from nearly all the ordinary operations. It resembles most ligature of arteries or neurotomies, but from both it differs in many essential particulars. In the ligature of arteries, the pulsation of the vessel guides us to the spot, and assures us that we have reached the structure we seek. In looking for a nerve, we have a characteristic white structure to find, and twitching often shows us when we have found it. The round ligament does not pulsate, and is of a pale flesh color when first seen. It lies imbedded in other tissues,

[1] Read before the Suffolk District Medical Society, Surgical Section, April 7, 1886.
[2] Anatomy, Descriptive and Surgical.
[3] On the Structure and Use of the Ligamentum Rotundum Uteri. Lond., Phil., Tr. 1880.
[4] A New Operation for Uterine Displacements. Glasgow Med. Jour., June, 1882.
[5] Doléris. Nouvelles Archives d'Obstétrique et de Gynecologie, January, 1886.
[6] American Journal Obstetrics, November, 1885.
[7] "Shortening the Round Ligaments," London, 1884.
[8] British Gynæcological Journal, November, 1885.

Operator.	No. of Cases.	Results Good.	Results Bad.	Prolapse.	Retroversion.	Retroflexion.	Not Specified.	Remarks.	Opinion of the Operator.	Reference.
Alexander, Wm.	40	37	3	11	6	5	18	One Death.	Excellent	Brit. Gyn. Jour., Nov., 1885.
Imlach,	36	36	–	4	–	–	32	....	"	" " " Nov., 1885.
Lediard, H.	4	4	–	4	–	–	–	....	"	Brit. Med. Jour., Feb. 23, 1884.
Burton,	13	13	–	2	11	–	–	....	Good.	" " " Nov., 1884.
Polk,	10	10	–	1	–	–	9	....	"	Amer. Jour. Obs., Feb., 1886.
Mundé,	6	2	4	–	–	–	6	See Note.	Doubtful.	" " " Feb., 1886.
Campbell, W. M.	4	4	–	2	2	–	–	....	Excellent	Liverp'l Med. Chir. Jour., July, '83.
Gardner, W.	9	9	–	2	–	7	–	....	Good.	Austral. Med. Jour., Sept., 1884.
Reid, Wm. L.	2	2	–	–	1	1	–	....	"	Brit. Med. Jour., Nov. 15, 1884.
Tait, Lawson	1	–	1	–	–	–	1	Nearly died.	Bad.	Brit. Gyn. Jour., Nov., 1885.
Duncan, Wm. A.	4	1 (?)	3	–	4	–	–	Was no relief.	"	Brit. Med. Jour., July, 1885.
Perrish, W. H.	1	–	1	–	–	1	–	....	Doubtful.	N. Y. Med. Jour., May, 1885.
Allan, J.	1	1	–	1	–	–	–	....	Good.	Lancet, June 7, 1885.
Zeiss,	1	1	–	–	–	1	–	....	"	Centralblatt für Gynäc., 44, 1885.
Nancrede, C. B.	1	–	–	1	–	–	–	....	"	Phil. Med. Surg. Rep., Dec., 1885.
Sinclair, A. J.	1	1	–	1	–	–	–	....	Doubtful.	Tr. Edin. Obs. Soc., 1884–85.
Elder, G.	1	1	–	–	1	–	–	....	Excellent	Brit. Med. Jour., Nov., 1884.
Winslow, R.	1	1	–	1	–	–	–	....	Good.	Phil. Med. News, XLV., 1885.
Miller, R.	2	2	–	2	–	–	–	....	"	Glasg. Med. Jour., XXII., 1884.
Adams, J. A.	1	–	1	–	–	–	1	....	"	....
Smith, J. B.	1	–	1	–	–	1	–	....	Doubtful.	Bristol Med. Chir. Jour., No. 1.
Harrington, F. B.	2	2 (?)	–	–	1	1	–	....	Good.	....
	142	127	14	32	26	17	67			

NOTE.— The operator failed to find Ligaments in three cases.

that, by the inexperienced, might easily be mistaken for it. Its white sheen only appears when pulled out."

The control which the ligaments have over the position of the uterus, when not fixed by adhesions or by other means, is demonstrable on any female cadaver. The uterus may be drawn into the position desired, and the shortened ligaments made fast to the tissues about the external ring. If care in the after-treatment be used, it seems to be demonstrated that the shortened ligaments have the power to retain the uterus in its corrected position.

Dr. Alexander reports cases which have stood the test for three and four years. The operation is not without difficulties and dangers, nor is any operation. In the description of the following cases, the writer will endeavor to give an idea of the method of operating.

CASE I. Mrs. W——, twenty-eight years of age, has suffered, since the birth of her child, seven years ago, with backache and dragging pains, which have, at times, incapacitated her for work. The uterus was retroverted and prolapsed in the first degree. For a year and a half she had obtained partial relief by wearing a pessary. Owing to the sensitive condition of the parts, it was necessary to frequently remove the pessary, when the old displacement and suffering would return. Being dependent upon her exertion for support, she became anxious to avoid the repeated loss of time, and the suffering incident to the wearing of a pessary, and asked to be relieved by operation, if possible. She eagerly accepted the chance for relief which shortening the ligaments afforded. With the assistance of Drs. Strong and Monks, the ligaments were shortened about two and one-half inches. The pubes having been shaved, an incision in a line with Poupart's ligament was made from the spine of the pubes, extending outward from two to two and one-half inches. Having cut through the superficial tissues, the tendon of the external oblique soon appeared. When the tip of the finger was inserted into the wound, the pillars of the ring could be felt near the spine of the pubes. These being exposed, a mass consisting largely of fat was seen filling the canal. This mass was raised upon a director until it could be seized by the fingers. Gentle and interrupted traction brought out various bands adherent to the sides of the canal. These were cut as they appeared. Gradually the mass lost its yellow, fatty character. As more and more was drawn into view, it became larger, round, and glistening white, with here and there a streak of muscular tissue.

The operation was repeated on the other ligament, with a like result. It was found, on examination, that the ligaments controlled the position of the uterus. They were drawn out until the uterus was held in a position in which it was placed by the uterine sound. On each side, the ligament was made fast to the pillars of the ring and to the fascia about the pubes, by means of fine silk sutures. The redundant ligaments were carefully handled and packed in the wounds. Careful antiseptic precautions were observed. The canal was made dry and free from blood. The wounds were closed with catgut, and covered with a tightly-fitting iodoform dressing. The dressings were attached to an elastic band about the body, which ensured close approximation to the wounds.

When the sound was removed from the uterus, a pessary was placed in the vagina to remove all strain from the ligaments. The recovery from the operation, and the healing of the wounds were perfect.

There was no rise of temperature or of pulse following the operation. On the tenth day the dressings were removed. Complete union had taken place. The patient was kept in bed for three weeks. Six weeks after the operation, the uterus remained in its corrected position.

CASE II. Mrs G——, thirty years of age, has suffered for three years with constant backache and pelvic pain. There was some prolapse of the uterus, and a sharp retroflexion of the body. The uterus measured three and one-fourth inches in depth. The retroflexion could be corrected, but when the repositor was removed, the uterus immediately returned to its old position. Having obtained no relief after many months of treatment, she was advised to try shortening of the round ligaments. With the assistance of Drs. Strong, Elliot, and Vickery, the ligaments were secured, as in the previous operation. The left ligament was much larger than the right, being nearly double its size. When the ligaments were drawn upon, the uterus was

lifted, but the retroflexion was wholly uneffected. Following the plan of Alexander, a large stem-pessary was inserted into the uterine canal, which corrected the retroflexion. The ligaments were then shortened two and three-fourths inches, and attached as before. Severe ether-sickness, lasting thirty-six hours, followed, but the recovery was perfect. The dressings were removed on the ninth day. Four weeks after the operation, the position of the uterus was good, and the patient more comfortable than she had been for many months.

It is too early to determine positively the success of the operation in these two cases, but the prognosis is very favorable.

REPORT ON DISEASES OF CHILDREN.

BY T. M. ROTCH, M.D.

TREATMENT OF CONGENITAL SYPHILIS.[1]

PROFESSOR MONTI, of Vienna, has written an article in the *Archiv. fur Kinderheilkunde*, in which he speaks of the old and new methods of treating congenital syphilis. He states that in the earlier treatment by inunction blue ointment was used and is to this day largely employed, but that the objection to it is that it oxidises too readily and is then apt to produce eczema. Oleate of mercury is extensively used instead of blue ointment, and mercurial plasters have also been employed, while Charcot recommends mercurial soap. Dr. Monti has had no personal experience with the soap, but he considers that all of these compounds are more or less unsuited to the tender skin of infants, the least objectionable, however, being the oleate of mercury. He moreover thinks that inunction involves considerable risk of the system, rapidly absorbing an excessive quantity of the drug, as in the case of very young infants this may lead to acute anæmia. He has also come to the conclusion that the sudden death, which he states is not an uncommon incident in hereditary syphilis, occurs with far greater frequency where inunction has been employed. For these reasons he has for some years ceased to use it where the children are under one year of age. He next speaks of calomel, which he states also has a tendency to produce anæmia and should therefore be given in combination with lactate of iron; this should be discontinued when the first symptoms have disappeared and saccharated iodide of iron substituted until the spleen is no longer felt or the skin has resumed its normal color; but should the disease reappear manifesting itself in the skin, mucous membrane or bones, calomel must again be resorted to. In some rare cases such as those where there is great irritability of the intestinal tract, a subcutaneous injection of a freshly prepared mixture of calomel suspended in mucilage may be administered. The treatment by corrosive sublimate gives very satisfactory results, provided that it is not continued too long, in which case symptoms of gastric irritation will supervene. This drug can also be administered in the form of a bath, which should contain about seven grains, but in Monti's experience, the effect upon the disease by this method is very slow, and should therefore be accompanied by calomel internally, and when this combination is employed, the baths seem to hasten the cure. The best way of giving corrosive sublimate is by subcutaneous injection.

The punctures are best made on the abdomen or chest, and should not be close together. The author states that the injections in general are well borne and in his experience never produced mercurialism, and cause very little loss of flesh. He cannot deny, however, that infants do not bear these injections as well as adults, and that even with the greatest care induration of the cellular tissue and abscesses at the seat of puncture may occur. It is also not suitable for outpatients, as the mother sdecline to bring the children after the first few times, so that notwithstanding that the symptoms subside more rapidly under this treatment than under any other, he has confined its use to cases that would not bear mercury internally. Albuminate of mercury as recommended by Bamberger, is preferable for hyperdermic use to corrosive sublimate, provided that the solution is clear, but it is very unstable and if used in a cloudy state, produces irritation and abscesses; much the same objection applies to mercury-peptone, though it is rather more stable. Formamide of mercury (Liebreich) is unsuited to children. Protiodide of mercury produces excellent results especially when combined in a powder with lactate of iron, and perhaps no other remedy acts so promptly upon syphilitic affections of the bones; it, however, unfortunately, produces diarrhœa and colic, and the addition of Dover's powder soon ceases to have the desired effect, so that Monti only gives it where bone affections exist from the beginning. Black oxide of mercury as recommended by Henoch, was found to produce vomiting, and was therefore soon given up. The author has only had a limited experience with hydrargyrum tannicum oxydulatum (Ludwig), but is favorably impressed by it as it does not appear to affect the digestive organs. Monti also states that it is now a recognized fact, that hereditary syphilis can be cured by preparations of iodine as well though more slowly, than by mercury. Iodide of potash is objectionable, and the best form to administer iodine is the saccharated iodide of iron; this is borne well by children of any age, improves their nutrition and never produces iodism, but it is much slower in its action than mercury, and is therefore best suited for very chronic cases. It should be given as a powder, for if the syrup is used, it is apt to produce diarrhœa. Three grains may be given, divided into ten powders, and a newborn child should take two or three of these powders daily, in milk.

[1] Archiv. für Kinderheilk. London Med. Record, Jan. 15 1886, Leftwich.

PLEURAL SARCOMA.[2]

The difficulty and resulting hesitation which so often arise in making a definite diagnosis of pleuritic effusion in children, even where at first sight the physical signs seem simple and reliable, are so well recognized by those who examine large numbers of children, that the following rare case of sarcoma occurring in the practice of Professor Hofmokl of Vienna, and reported in the *London Medical Record*, is worthy of record and study. The patient, a boy aged seven years, had always been well until the present attack: his father died of tuberculosis; his mother was healthy. There was no history of any neoplasm on either side. Between December, 1883, and May, 1884, the child had had several transient feverish attacks, and the physician attending him at that time diagnosticated right

[2] Archiv. für Kinderheilk., London Medical Record, March, 1886, Leftwich.

pleuritic effusion. He was then sent into the country, but without benefit, and he returned in September, much wasted, with short breath and irritating cough. Professor Monti was called in consultation and diagnosticated right empyema. Professor Hofmokl first saw the patient October 10th, 1884, and was invited to perform the necessary operation. He was emaciated and was suffering from orthopnœa; the right side of the thorax was distended and barrel-shaped: its interspaces were stretched but not bulging; there was scarcely any movement with respiration; the superficial veins of the affected side were much distended. Near the right nipple there was a hemispherical bulging of the ribs. The left half of the thorax moved freely with respiration; its interspaces presented nothing abnormal. The heart's apex was pushed outwards to the left axillary line. Percussion on the right side behind, was clear above the spine of the scapula, completely dull below it. In front the apex alone was clear. A marked resistance was also felt on percussion in the dull regions. The left lung appeared to be compressed, but was otherwise normal. Upon auscultation, the right apex both in front and behind, yielded sharp resicular breathing, which as the spine of the scapula was approached, changed to bronchial, but at this point suddenly ceased. On the left side vesicular breathing was everywhere audible. The heart presented nothing abnormal excepting its change in position. The abdomen was much distended. There was no albuminuria. On October 12th, an exploratory puncture was made with Pravaz's syringe, in three different places, but only a few drops of sanguineous fluid was obtained. It was concluded that it was a case of tumor, probably pleural sarcoma.

The child lingered for another month and then died, with symptoms of great disturbance of the circulation and dyspnœa. The autopsy was made by Dr. Weichselbaum. On opening the abdominal cavity, the right half of the diaphragm was seen greatly projecting with an uneven surface. The right half of the thorax was occupied by a solid mass of the size of a man's head. The surface of the tumor presented numerous flattish prominences of various sizes, and was everywhere covered with a thin vascular membrane, the pleura which was almost inseparable from the growth. There were a few adhesions to the ribs, but there was no invasion of their structure. The right lung was pushed upwards and backwards, and while the upper lobe still contained a little air, the middle and lower lobes were completely compressed. The tumor which had grown to the lung, was rather soft and showed on section three different parts; one resembling the gray substance of the brain, another reddish-gray and very vascular, and the third dry and yellowish like cheese. The bronchial and mediastrial glands were completely intact. The left lung was normal. The heart was hypertrophied; the right ventricle was somewhat dilated: the valves were normal; the abdominal organs were normal. Upon microscopic examination the gray portion showed a typical alveolar structure, the stroma being fibrillary and vascular and the spaces being crowded with fusiform and stellate cells, each with a large oval nucleus. Upon well shaking a section, a fine continuation of the stroma was traceable between the cells. The yellowish portion of the tumor showed cheesy metamorphosis. The diagnosis was therefore elaborated into a large-celled alveolar sarcoma, the cells of which probably originated from the endothelium of the pleura or of its lymphatic vessels. In conclusion, the author compares this case with one previously described by him, and draws especial attention to the existence in both of the hemispherical swelling already alluded to. He attributes the position of this to the yielding nature of the costal cartilages. The diagnosis of future cases will be facilitated, by considering the great resistance felt by the finger on percussion; the stretched but not bulging interspaces; the passive dilatation of the superficial veins of the affected side and the sharp line of demarcation between the completely and the partially compressed lung tissue, as shown by the breathing sound. But the only certain sign is that elicited by the exploring needle, which, however, must be tolerably large and must be inserted in not less than three places, and to a fair depth. The microscopic examination of the exuding fluid may sometimes give valuable information.

MORPHIA INJECTIONS FOR ECLAMPSIA.[3]

Dr. Lerentaner reports the case of an infant four months old, who had a large number of eclamptic attacks following each other in quick succession, and where the administration of chloral, warm baths, cold compresses to the head, and inhalations of chloroform, having failed to control the convulsions, he had resort to subcutaneous injections of morphia. He gave the first injection after the convulsions had lasted twenty-four hours, the second a few hours later, the third six hours later, and the fourth after an interval of ten hours. Each of these injections consisted of 5-4 mg. of morphia: the first two produced complete rest, lasting for some time; the last two were ineffectual. A fifth injection of 3 mg. was then given, and the infant slept for seven hours: a sixth injection of the same size twelve hours later, and after twelve hours more, another dose of the same strength were given. The infant recovered completely.

ELIMINATION OF OPIUM THROUGH THE BREAST MILK.[4]

The following case of infantile opium-poisoning, reported by Evans, is important so far as it directs our attention to the necessity of care in the therapeutic treatment of nursing women: assuming, of course, that opium had not been directly administered to the infant by the nurse, a possibility not to be overlooked in cases of this class, and in this instance, not referred to by the reporter. On November 17th, Mrs. T. was delivered of her eighth child; the confinement was natural, though rather tedious in its first stage. The infant, a female, was healthy at its birth, which took place at 1.30 P. M. Evans states that he left the mother a drachm of liquor opii sedativus, to be taken in four doses, at intervals of four or five hours, if required for after-pains: on visiting her the next morning, he found that she had had no sleep, on account of the severity of the after-pains; he therefore sent her six doses of twenty minims each of liquor opii, to be taken as before. On the 19th, she reported that she had had about three hours sleep, but that the after-pains were troubling her about every fifteen minutes: the medicine of the preceding day was therefore repeated. On the 20th, she had had more sleep than on the previous night, had finished the medicine, but was not at all drowsy nor under the influence of opium in any way, except the relief it had afforded her from her pains.

[3] Centralbl. f. Klin. Med., 36, 1885.

[4] British Medical Journal, December 19, 1885. Evans.

The milk came into the breast during the night, and at 4 A. M., the child was put to the breast and sucked well, and then had slept so continuously that it had not been disturbed, excepting for a short nursing at 7 A. M. Evans next saw the infant at 2 P. M., when it was found to still be very drowsy, with slow, tranquil respiration, and the pupils contracted to the size of a pin's head. It was aroused with difficulty, and soon relapsed into a somnolent state, and although coffee was administered and ammonia applied to the nostrils on a handkerchief, it died in the night.

[This case is interesting, provided that it was a case of opium-poisoning, a diagnosis concurred in by the coroner at the post-mortem: the treatment was strikingly inefficient, both in the methods employed, and the evident lack of appreciation of how necessary it was to personally superintend the case until the dangerous symptoms had passed off, which, according to the report, was not done, so that we are left in doubt as to whether or not the infant's life might have been saved.]

INFANTILE MORPHIA-POISONING.[5]

Dr. William Judkins reports a case of morphia-poisoning in an infant aged fifty hours, where a quarter of a grain of morphia in solution was given. At the time the doctor first saw the infant, he was told that an eighth of a grain in a teaspoonful of water had been given two hours before, for supposed colic, and that, as the medicine had not taken effect at the end of an hour, the same dose had been repeated. The infant was found to be cyanotic, breathing only three times in the minute, and that of a very feeble character: the pulse was barely perceptible. Immersions in hot water were at once begun, and whiskey injected hypodermically in the gastrocnemius. Strong black coffee was also administered per ovum and anus. After two hours' constant work, the respirations increased in frequency, and the heart's action became stronger. Recovery was final, and ten weeks after the accident, the child was well and bright. The catheter had to be used several times during the first twenty-four hours, and three abscesses were opened, that had been produced by the frequent introduction of the hypodermic needle.

PRIMARY NEPHRITIS IN A YOUNG INFANT.[6]

Dr. Smith reports the following case: A baby of six months, who had always been healthy, suddenly passed no urine for twenty-four hours; the secretion was, however, restored by one dose of sweet spirits of nitre. Some days later, diarrhœa occurred, and continued till the close of life, but without vomiting. The stools were green, and numbered from four to eight daily: the infant had an attack of general convulsions, lasting about four minutes, the only one during the illness. The eclampsia was succeeded by well-marked nervous symptoms, such as strabismus, rolling the head, twitching of single muscles and groups of muscles, the uttering of a sharp, piercing cry at short intervals, and rolling the eyes. Death occurred at seven months. The temperature taken daily during the last month of her life was usually between 100 and 103°. At the autopsy, the kidneys were found to be much enlarged, that on the right side showed the cortex to be thickened and pale, and the pyramids large and red; there were hæmorrhagic spots in the upper part of this kidney, and the mucous membrane of its pelvis was deeply injected. The left kidney was much congested, so that blood flowed from its incised surface, and the pyramid and cortex were of a uniform red color. The mucous membrane of the bladder was in a state of inflammation; the urine retained in the bladder contained albumen in such quantity that it nearly solidified: there were hyaline, granular, and epithelial casts in great abundance; also epithelial cells, red blood-corpuscles, crystals of triple phosphate, and cystine. The author remarks that from the history, the case appeared to be one of idiopathic nephritis, which gave rise to certain, if not all, the symptoms and lesions observed. This instance shows how important it is to examine the urine in the obscure diseases of children, for we may find the kidney affected where there are no pronounced symptoms referable to that organ. The frequent occurrence of nephritis in scarlatina and in diphtheria, and even in such febrile diseases as measles and parotiditis is recognized, but the profession is apt to overlook nephritis in children occurring as an idiopathic or primary disease.

[In this connection, the renal disease reported a number of times during the last two years, as a sequela of varicella, should be noticed, as also likely to be overlooked unless closely watched for.]

ALBUMINURIA IN CHILDREN.[7]

Dr. Henri Leroux has made some extensive investigations regarding the presence of albumen in the urine of children, of which the following is a summary: the cases were seen at the "Hospice des Enfants Assistés," and were 330 in number, and under the age of sixteen years. There were 212 boys and 118 girls, and albumen was detected in 19 cases, 9 boys and 10 girls, between the ages of six and fifteen years, a proportion of about one case of albuminuria to 17 children. The author divides the cases into two classes, according to the amount of albumen detected. In those cases where there was a decided quantity present (1-3 grams. in the litre), the albuminuria was present both in the morning and in the afternoon, while where there was only a slight, transient albuminuria, it was found to occur between 1 and 3 P. M., that is, after the chief meal of the day, which was at 11 A. M., a fact pointing towards large meals and exercise acting as a cause for the presence of the albumen, for after the night's rest, no albumen was found in the early morning hours. The light cases occurred in 7 boys and 7 girls, while the more marked cases were found in 2 boys and 3 girls.

All the children were living in the hospital, with the same food, surroundings, and pursuits, and were apparently well and strong, excepting that two of them had certain scrofulous symptoms, and one had Pott's disease. So far as could be ascertained, they had none of them previously had any disease, with the exception of five who had had measles.

— In Coryza, Rabow (*Deutsch. med. Wochenschrift*, 5, 1886) speaks favorably of the value of the following powders, used like ordinary tobacco snuff, which also they resemble in appearance: — (1) Menthol, 2 parts; roasted coffee, 50 parts; white sugar, 50 parts; mix, and take as snuff. (2) Cocaïne hydrochlorate, 1 part; roasted coffee and white sugar, of each 50 parts; mix, and use as before.

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[5] New York Medical Record, August 8, 1885.
[6] New York Medical Record, November 14, 1885.
[7] Rev. de Médec., November 3-10, März, 1883.

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. M. BUCKINGHAM, M.D., SECRETARY.

March 22, 1886, the President, Dr. F. W. Draper, in the Chair.

PULMONARY CALCULUS.

Dr. F. C. Shattuck showed a pulmonary calculus the size of a large pea, given him by a patient with a history of phthisis of two years' duration. The disease was well tolerated, and the patient reported that he had brought up several similar bodies.

Dr. J. B. Ayer reported as follows a case of

ECLAMPSIA DUE TO FRIGHT OR TO THE SHOCK OF AN INJURY.

A month ago I saw a colored boy, eleven years old, who, while resisting punishment, had struck his head (right mastoid region) against an iron wall-hook.

The head was not heated and no swelling was discovered. An hour later he was in a dazed condition, and muscular twitchings began to be noticed on the left side of the face. There was vomiting.

When I saw him at the end of four hours, he could not be roused to any extent. At that time the facial twitchings gave way to severe tonic and clonic convulsions involving the whole body, although most marked on the left side.

In the course of an hour and a quarter, there were sixteen general convulsions, but a few whiffs of ether brought them to an end, and then the patient slept several hours. He, however, awoke occasionally and complained of headache.

The headache lasted several days, but he has *apparently* made a complete recovery.

There was no previous history of convulsions except on one occasion (at the age of five) in connection with acute disease. I could not trace any hereditary tendency.

I could not decide whether fright or injury was the more important factor in the causation of this attack of eclampsia.

Dr. E. N. Whittier read a paper entitled

A MEDIASTINAL TUMOR.[1]

Dr. Knight said that he had had an opportunity to make a slight examination of Dr. Whittier's patient, and that it seemed to him at that time that the question of aneurism of the aorta was almost out of consideration, as stated by Dr. Whittier in his paper. The tumor did not occupy the position of aneurism of the arch of the aorta, and had none of the feeling of aneurism, on palpitation. The signs of pressure were not such as usually come from an aneurism of the arch of the aorta. There was, moreover, the hard swelling above the sternal notch to indicate the nature of the trouble below.

Dr. Minot said the point of principal interest in the case lay in the diagnosis. The typical signs of aortic aneurism were all absent; while the recent advent of the symptoms, together with the rapid increase of the tumor were evidence of a mediastinal growth, probably of sarcomatous nature.

[1] See the Journal for April 1st, 1886.

April 19th, 1886, the President in the chair.

Dr. W. W. Gannett read a paper entitled

SHOULD NURSES WHO ARE TUBERCULOUS BE ALLOWED THE CARE OF CHILDREN?[2]

Dr. Minot was glad that Dr. Gannett had called attention to a most important subject. There could be no reasonable doubt that the children were infected by the nurse in the interesting cases which he had reported. As to the question of the contagiousness of tubercular disease, while we know that it can certainly be conveyed by inoculation, yet the instances of infection in any other way are very rare, unless perhaps between husband and wife, and Dr. Minot had seen but one case of this that seemed to be undoubted. The wife of a gentleman in the third stage of phthisis, who had previously been in good health, was suddenly attacked with hæmoptysis, which was followed by all the rational and physical signs of consumption. In her case, so far as could be ascertained, there were no hereditary antecedents. In calling attention to the danger of infection of children through a tuberculous nurse and to the importance of employing precaution in order to prevent such a calamity, he thought Dr. Gannett had made a most valuable suggestion.

Dr. Rotch remarked that he had seen and carefully examined the first case mentioned by the reader, both during life and at the autopsy, and that there certainly was a marked coincidence in the tuberculosis of the nurse and that of the child; he thought, however, that with the light which we have so far had thrown upon the subject from a pathological standpoint, we were hardly justified clinically in saying that there was no doubt but that the child was infected by the nurse; especially as it is so common to find tuberculous mothers living in constant contact with their children night and day, and yet these same children when closely observed for years, never showing any signs which we can ascribe to infection. Dr. Rotch also said that out of a number of cases of tubercular meningitis this was the only one where he had obtained any evidence of infection arising from other members of the household. He however believed with the reader, that so long as the subject remained "sub judice" children should neither sleep with, nor be taken care of, by tuberculous nurses.

Dr. Fitz complimented the reader on the exactness of his statements and the fairness of his conclusion. The source of infection in the cases reported was not one of certainty; but, as Dr. Gannett had distinctly shown, one of greater or less probability. The degree of probability is quite sufficient to cause the physician to oppose the employment of tubercular nurses for children. It is not strong enough to lead him to urge the separation of parent and child. In the former case there is no hardship except to the nurse, who is compelled to seek elsewhere a means of livelihood. In the latter it would result that most parents would refuse to follow the, to them, impracticable advice. They would compromise by adopting certain feasible precautions which might serve to lessen the probability of infection. How remote this may be, is suggested by the innumerable instances of the relatively healthy children who live to adult life, although the parents are phthisical and both are exposed to the poorest hygienic surroundings, as stated by Dr. Rotch. The importance of such accurate and thorough investi-

[2] See page 385 of this number of the Journal.

gations as those made by Dr. Gannett, is obvious, since it is through them, in great part, that the relative degree of the probability of the danger of infection is to be determined.

DR. WHITE observed that the fact that sickness can seldom be traced to this source, does not justify us in inferring the safety of entrusting children to tuberculous nurses; for the reason that we do not know the incubation period of the disease. This may sometimes be a long one, as is the case in some other affections. He thinks that those who study the bacillus tend to doubt the need of heredity as an explanation of this disease.

DR. BOWDITCH said that for years before the bacillus was known, he had had little doubt of contagion under favorable circumstances.

SPECIMENS FROM LUNG OF A CASE OF "NAILERS' OR GRINDERS' CONSUMPTION."

On behalf of DR. FRANK WELLS, who was unable to be present, Dr. Minot showed some sections of pneumonokoniosis mounted and sent to Dr. Wells by Dr. James E. Reed, of Wheeling, W. Va., who says, in a letter accompanying the slides, "The mounts are of unusual character in this,— they show typical tuberculosis. I have given the subject close attention for fifteen years, and have had the life history of probably three thousand nailers and feeders connected with the iron and nail mills hereabouts from which to found the reason for the faith within me; namely, that "nailers' or grinders' consumption," (fibroid phthisis,) is not generally of tuberculous character. There is at first, because of the inhalation of mineral particles, bronchial irritation, and of course, more or less cough; next, an interstitial pneumonia; next, consolidation of tissue; next, softening, and the formation of cavities, and then the end. Accompanying these structural changes are, in addition to the cough and expectoration, loss of flesh and strength, chills, fever, night sweats, etc. The absence of Koch's tubercle bacillus is a very constant condition. Indeed, since the discovery of Dr. Koch, I have in scores of cases of nailers' consumption searched the sputum carefully, using the best methods of staining and mounting, without finding the specific bacilli; whereas in ordinary phthisis pulmonaris I have never failed, at some stage of the disease, to find it. However, there is no difference in the tendency to death."

This experience of Dr. Reeves confirms the opinion of many pathologists, who allege that fibroid phthisis is not of a tuberculous character, inasmuch as it differs from true phthisis in so many particulars, such as its rarity in early life, its tendency to limitation to one lung, and often to the lower lobe, the frequent presence of bronchiectasis, etc. Of course the disease may attack a lung already the seat of tuberculosis.

DR. WILLIAMS stated that knife grinders' consumption had been much reduced at Birmingham by the use of magnets to catch the iron dust, and by air currents to carry iron and stone-dust away from the workmen.

— A two-per-cent. aqueous solution of chloroform has been recommended by Spaak of Brussels as a useful and effective hæmostatic in operations of oral surgery. Washing out of the mouth with this solution is said to have stopped bleeding even from large vessels.

NEW YORK STATE MEDICAL ASSOCIATION. FIFTH DISTRICT BRANCH.

SPECIAL SCIENTIFIC MEETING HELD IN THE COMMON COUNCIL CHAMBER, YONKERS, N. Y., MARCH 23, 1886.

THE President, J. G. PORTEOUS, of Poughkeepsie, in the chair.

DR. JOHN P. GARRISH, of New York, read a paper on

THE PHYSICIAN AND THE PHARMACIST — THEIR RELATIVE DUTIES,

in which he advocates the destruction of physician's prescriptions by the druggists at the end of thirty days after the reception of the same, and a number of other reforms in the present methods of dispensing medicines.

DR. ALFRED L. CARROLL, late Secretary of the State Board of Health, read the report of a

CASE OF MENINGEAL EXTRAVASATION, WITH REMARKS ON THE LOCALIZATION OF THE SUPERFICIAL LESIONS.

The phenomena described in the case were apparently traceable, he said, to an origin in a limited area bordering on the pons and medulla oblongata. The probable etiology of the disorder was that a mastoid abscess on the left side, from which the patient had suffered eight years previous to the attack, led to thrombosis of the inferior petrosal and transverse sinuses, perhaps with phlebitis sinuum, possibly with some basilar meningitis; thus having special vulnerability in the region about the basilar groove.

Peculiar subjective derangements of taste, which were noted, and probably to be ascribed altogether to the glosso-pharyngeal, without supposing any lesion of the gustatory branch of the inferior maxillary or chorda tympani, as the perception of saline and bitter flavors appears to pertain to the posterior and lateral parts of the tongue, supplied by the former nerve. Disturbance of articulation, also noted, was, of course, referable to the hypo-glossal; but here, too, there was no involvement of the muscles innervated by the descendens noni. If the superficial origins of the nerves concerned, and their relations to the transverse sinus, be remembered, this relative localization becomes to some extent explicable. The third pair, arising from the inner surfaces of the crura, above the pons; the fourth, from the valve of Vieussens and curling around the crura also in the groove above the pons; the sixth emerging from the furrow between the corpora pyramidalia and the lower border of the pons; and the seventh, springing from the posterior median fissure and the groove between the restiform and olivary bodies, and curving around the restiform columns in the depression between the medulla and pons; all these are in great measure shielded from pressure or local irritation.

On the other hand, the fifth makes its exit from the antero-lateral convexity of the pons, close to the margin of the basilar groove; the glosso-pharyngeal and pneumogastric, with the small accessory root of the eighth, from the lateral tract, just behind the corpus olivare; and the hypoglossal from the groove between the olivary body and the anterior pyramid, in situations much more exposed; while the spinal root of the eighth takes its origin almost entirely below the foramen magnum.

Another circumstance which pointed to a localiza-

tion about the transverse sinus was, that while the facial anæsthesia and dysæsthesia noticed were chiefly on the side of the former mastoid lesion, the muscular and sensory disturbances through the brachial plexus, though bilateral, were most marked on the opposite side; simulating in a lesser degree the phenomena of "crossed palsy," which is usually caused by grave changes in the lower part of the pons on one side. If we imagined a source of pressure originating on the left side and extending along the line of the cavernous sinus and across the transverse groove, we should have the conditions to account for these peripheral manifestations.

In regard to hiccough, which continued for six days in this case, Dr. Carroll said that its pathogeny was somewhat difficult to understand, although we know empirically that this symptom and vomiting are commonly associated with pressure upon the pons or upper part of the medulla, and that when it has a different central origin, it is often from diseases of the cervical cord, whence the phrenic nerves arise. In the present instance its causation was probably to be sought in a reflex from centripetal strands of the pneumogastric.

As to retention of urine, which continued for seventeen days, he said it must be remembered that the vesical sphincter is habitually in a state of contraction, governed by its tonic centre in the cord as the base of the origin of the second to the fourth sacral nerves, the centre for the detrusor being just below; and that normal micturition is largely a reflex action, the part played by the voluntary system being chiefly to inhibit the automatic control of the sphincter. Hence, pressure along the anterior motor tract of the mesencephalon might account for this isolated vesical paralysis without paraplegia or other implication of parts supplied by the lumbar or sacral nerves.

In conclusion, Dr. Carroll said that, notwithstanding the immense advances of our knowledge of the pathophysiology of cortical and intra-cerebral lesions, comparatively little attention had been attracted to localized superficial interference with nerve function, and the paucity of observations in this respect might serve as an excuse for submitting to discussion a plausible commentary on the phenomena of a case, the bare recital of which would possess but small interest.

DR. J. W. S. GOULEY said that notwithstanding the ingenious explanation of the retention of urine in this case, we should not lose sight of the fact that without any paralysis whatever, retention may take place, as in drunkenness, for instance.

DR. CARROLL said in reply, that his patient did experience the desire to urinate, but was unable to do so; so that he had to teach him the use of the catheter.

DR. GOULEY then said, that as the patient was unconscious for a time, he still thought that the cause of the retention might not have been directly due to paresis.

Dr. Gouley then read a paper on

SACCULATION AND PERFORATION OF THE BLADDER AS CONSEQUENCES OF CHRONIC RETENTION OF URINE.

Sacculation, he said, was of frequent occurrence in men, but was rare in women. While many authors had previously referred to the condition, it was reserved for Mercier, of Paris, to give the first clear and definite description of it, in 1836.

There were two forms of sacculation, the single vesical pouch, and multiple diverticula. All authors were agreed as to the cause, though retention giving rise to it was recognized as of various origin. The size of the vesical pouches was in inverse ratio to their number, and the sacculation might occur in any part of the bladder, except the trigone. Having described a specimen which he dissected some years ago at Bellevue Hospital, and mentioned a case reported by Dr. Warren Green, of Maine, in which the pouch was of enormous size, he referred to a rare case of Dr. Charles D. Smith's, in which there was a single diverticulum, situated at the summit of the bladder.

Vesical pouches, large or small, rarely emptied themselves. Hence the urine would become putrescent, and, in consequence of this, ulcerative processes, abscesses, and death from pyæmia or exhaustion were liable to result.

The diagnosis of sacculation was often extremely difficult under the most favorable circumstances, and in many cases, and when there were large sacs, the condition was not recognized during life. These cases of large sacs were often mistaken for other kinds of tumors, and Dr. Gouley gave a number of interesting instances of such errors in diagnosis. There were, however, diagnostic signs by which they could be recognized, if proper care were observed, though these were few in number. As obstructed urination is the principle cause of sacculation, in any case where this had existed for some time, the medical attendant should be prepared to suspect the existence of the condition. If the sac were large, the diagnosis could often be made by drawing off the urine with a catheter, and, after withdrawing the instrument and waiting a short time, reintroducing it. It was rare that in a case of sacculation, much urine could be withdrawn at any one time. When the sac was not large, and situated posteriorly, the evidence afforded by exploration with a catheter was the only sign; and in the case of small diverticula, there were no certain signs of diagnosis.

The prognosis was generally bad in the case of large sacs, but not in sacs in which there were calculi. The preventive treatment consisted in the removal of the obstruction to urination, such as the dilatation of the urethra in case of stricture, the excision of a portion of the prostate, or at least, systematic catheterism, in enlarged prostate, etc. But the removal of the obstruction was not enough. The cystitis which had resulted from it required to be treated by irrigation and other appropriate measures.

The treatment of sacculation, when present, consisted in the removal of the cause or causes to which the retention of urine producing it was attributable, and the use of frequent irrigation. It was to be remembered, however, that a largely distended sac should never be completely evacuated at once. It was a good practice to remove about a pint at a time, and then inject half a pint of warm borax solution into the bladder, repeating this procedure every hour. It was dangerous and unwise to tap a distended diverticulum. In order to secure the evacuation of a sac, it was usually necessary to change the position of the patient frequently. It was well to make use of a compressing bandage, but the catheter was not to be allowed to remain in the bladder.

DR. W. B. EAGER, of Middletown, Orange Co., related the case of a man who was brought to him from a distance of seven miles, suffering from retention of

urine. He suspected that he had stone, and introduced Thompson's searcher, but could find no evidences of stone. The prostate was found to be enlarged. He withdrew, to his surprise, only about two tablespoonfuls of urine. He then introduced the searcher again, and found that its extremity passed to a great distance, and was movable in every direction. He then removed the plug, and drew off seventeen ounces of urine, which was high-colored, but clear and non-purulent. It occurred to him that this might, perhaps, be a case of sacculation, though possibly it was only one of over-distended bladder.

BIOGRAPHICAL NOTICES

of the late Drs. I. G. Collins and Desault Guernsey were read by Drs. N. C. Husted, of Tarrytown, and G. H. Codding, of Amenia, Dutchess County. The Chair appointed Drs. Alfred L. Carwell and E. H. Squibbs a Committee to prepare and publish appropriate resolutions in regard to the death of the late Dr. Austin Flint. It was decided that

THE NEXT SPECIAL MEETING

should be held at Kingston, Ulster Co., on the third Tuesday in June next. On motion of Dr. Southworth, the thanks of the Association were tended the Mayor and Common Council of the city of Yonkers for the use of the Council Chamber.

THE NEW YORK ACADEMY OF MEDICINE.

STATED meeting April 1, 1886.

IS DISEASE OF THE UTERINE APPENDAGES AS FREQUENT AS IT HAS BEEN REPRESENTED?

DR. H. C. COE read a paper with this title, in the outset of which he remarked that there was much yet to be learned in regard to the pathology of these organs. Agnosticism in regard to ovarian and tubal disease, he said, met with very little encouragement at the present day, and this was due to a large extent to the surgeon. As to what constitutes a normal ovary, had now come to be somewhat practical, except in the case of some of the lower animals.

In considering the condition and appearance of the ovary in any given case, it was not to be forgotten that during the entire sexual life of the female, constant changes are going on in these organs. Hence it was often very difficult to say just where the normal ends and the pathological begins. Nothing was at present more common than to remove ovaries because they were "cystic," on the ground that in consequence of this condition they were functionally useless. Yet he had seen cysts as large as a marble which could not be called pathological, since they contained perfectly healthy ova which were certainly capable of being impregnated.

Taking up the pathological conditions of the ovary, as viewed by the laparotomist, Dr. Coe said that many of the variations of the organ in size and shape which were commonly regarded as pathological by him were found in ovaries which were to be looked upon as in fact entirely normal, at least so far as function was concerned. Congestion and moderate enlargement did not necessarily imply chronic ovaritis, and indicate oöphorectomy; since, when the other pelvic organs are for any reason in a state of hyperæmia, the ovaries were naturally found hyperæmic also.

In the same way, a decided diminution in size might not be pathological, but merely an indication of senile atrophy. Again, certain conditions which are regarded by the laparotomist as pathological, such as thickening of the external covering of the organ, might not be so in reality; since such thickening was not at all abnormal, in senile atrophy, or after any frequent correlation, where localized thickening is very common, even when senile atrophy does not yet exist. But, although there might be extensive thickening, it was no indication that there was cirrhosis of the internal stroma of the organ which interfered with its functions.

The most frequent cause for which ovaries are extirpated, however, was so-called cystic degeneration, and Dr. Coe remarked in this connection that if the slightly cystic condition which is so frequently met with in the ovary was of grave import, few women were free from the danger of serious cystoma. He next passed on to consider the subject from a microscopical point of view. In order that the pathologist might give an intelligent opinion concerning any removed ovary presented to him for examination, he must be familiar with the normal histology of the organ, and, on account of the constant changes going on in the ovaries previously referred to, this was a matter which involved no little difficulty. The pathological appearances of well-marked disease were easily recognized; but the lesser ones were undoubtedly very hard to differentiate. Again, because one portion of the organ was diseased, it did not follow that the whole ovary should be involved in the pathological process; and, acting on this principle, Schroeder had lately been operating in such a way as to remove the diseased portions, and allow the rest to remain. The number of cases thus far recorded, however, was too small to base any positive conclusions upon as to the practical utility of this method; but it was at all events, a step in the right direction.

TUBAL DISEASE.

During the three years that had elapsed since Tait called special attention to this condition, and Thomas popularized Tait's operation in America, by his paper before the Academy of Medicine, this procedure had been resorted to an immense number of times; and there could be no doubt that it had been greatly abused. No reasonable objection could be raised to the removal of Fallopian tubes which were filled with pus; but this was not the case with a large number of the tubes which were taken out.

Tait said that in chronic disease of the ovaries the tubes were always affected; but Dr. Coe denied this, as the result of his personal pathological investigations. Some of the so-called diseases of the tubes were not recognizable by the pathologist at all. There was no doubt about pyo-salpinx or hydro-salpinx when these conditions were present; but as to so-called "catarrhal salpingitis," "commencing pyo-salpinx," and other presumed pathological conditions which constantly pass unchallenged in learned societies, there was very good reason for doubt. In cases where the diagnosis of catarrhal salpingitis had been made, and the tubes and ovaries removed in consequence of the condition, Dr. Coe had found on subsequent examination simply moderate hyperæmia, with a thin coating of mucus, which might exist in a perfectly normal Fallopian tube; there being no evidence whatever of any inflammation. As long as the lumen was free and the lining mucous membrane capable of performing its

function, the tube was not abnormal; notwithstanding the fact that there might be slight adhesions of the fimbriated extremity.

From his examinations he would say that pyo-salpingitis exists in about one-fifth of the cases where Tait's operation is performed. Hydro-salpinx is considerably less common, and hæmo-salpinx is extremely rare. If there was no pus discoverable, there was certainly no pyo-salpinx; just as in general practice one would say in a case of suspected abscess that if there was no evidence of pus, there was no abscess. The pain that was so often attributed to disease of the tubes Dr. Coe believed to be generally due to localized peritonitis or to neuralgia pure and simple.

There can be no doubt, he said, that far too many tubes and ovaries are removed at the present day; and the one criticism that he had to make on American laparotomists was, that they do not follow up their cases for a sufficiently long time. As a rule, they are reported very shortly after the operation, when the results often seem all that could be desired; but if the histories could be given of the condition from six months to two years later, it would not infrequently be found that no permanent improvement whatever had resulted from the procedure. He had met with many women under these circumstances who still had the same pain as before the operation.

The deductions drawn by Dr. Coe were somewhat as follows:

(1) Ovarian disease is not as common as is now generally supposed. This impression is derived from the surgeon, and not from the pathologist.

(2) Because the ovary is partially diseased, it does not follow that the whole organ is implicated.

(3) "Cystic" and "cystic degeneration" are mischievous terms, which have been productive of much evil by leading to false conclusions and unnecessary ovariotomies in consequence.

(4) Actual disease of the tubes is far less frequent than many surgeons would have us believe.

Localized peritonitis will account for much of the trouble attributed to disease of the uterine appendages.

Dr. Coe said, in conclusion, that while the normal histology of these organs was not well understood, and their various pathological condition must, therefore, necessarily be regarded as still *sub judice*, he did not wish to be understood as by any means condemning laparotomy in really legitimate cases.

In announcing the paper open for discussion, the President, Dr. A. Jacobi, remarked that the operation would not be so frequently performed in these cases in the future as it had been in the past.

DR. WM. T. LUSK said that Dr. Coe had covered nearly all the ground which he had himself been accustomed to take in the tirades against the abuse of Tait's operation with which many of his gynæcological friends were most familiar. He was by no means an enemy of the operation, and thought it did great good in its place; but he had to say that he had stood by and seen tubes removed which were described by various pathological designations, but which seemed to him to be entirely normal. In the same way he had seen ovaries taken out, of which it was said that they were in a state of commencing cystic degeneration, but which appeared to him typical examples of physiological ovaries, precisely like those he had formerly been accustomed to exhibit to his classes as such when he used to teach that branch of physiology. He then took great interest, he said, in pointing out the changes which were constantly going on in these organs; and these so-called cystic ovaries, which had been removed for merely imaginary disease, were simply ovaries which were undergoing these same physiological changes.

Since surgeons had come to be able to remove the ovaries and tubes with comparatively little risk to the patient, the operation was performed entirely too frequently. Tait's advice was to cut open the abdomen and examine the condition of the uterine appendages; when, if they were found all right, they were to be returned to their places in the pelvic cavity. But he himself had yet to meet with the surgeon who, after getting thus far in the operation, did not take out the organs altogether, whatever their condition might be. He believed that there were very few cases in which the condition of pyo-salpinx could not be diagnosticated by proper manipulation with the fingers of one hand in the vagina, and that the great mistake of the present day among gynæcologists was the too frequent opening of the abdomen. Unless the enlarged tube could be felt, in the manner described, outside the body, the operation ought not to be performed; and unless this rule were adopted, the temptation was to take out too many tubes.

DR. LUSK then went on to say that it seemed probable to him that in the future a modification of Tait's operation would not come into vogue which would obviate the necessity of removal of the tubes even in pyo-salpinx and hydro-salpinx. The time would come, he thought, when these distended tubes would be evacuated through the vagina by means of some such instrument as that devised by Dr. Mundé, which consists of a syringe with a hypodermic needle attached to it. In this connection he related a case of pyo-salpinx which had recently come under his observation. He had secured the pavilion at the hospital for the patient, engaged the nurses, appointed the day for the performance of laparotomy, and invited a number of friends to be present at the operation; when, a short time before the day fixed for the latter, the woman noticed an unusual discharge from the rectum, and in a day or two the tumor caused by the distended tube, had completely disappeared.

As to the removal of the ovaries and tubes, when these organs were normal, for the relief of neuralgia and other conditions, the result was very uncertain, and the disturbance of the general system by the operation was so great that the most serious consequences were liable to ensue. In one case of his own, in which he had been obliged to remove the ovaries and tubes in connection with a large fibroid which demanded extirpation, the patient had been rendered insane by the operation.

DR. W. GILL WYLIE said that in the cases in which he had operated, his ground for doing so had been the symptoms of the patient and what he could detect before opening the abdomen. While at first he did not feel so sure about the matter of diagnosis as he did now, at the present time he could, after etherizing his patient, almost always tell exactly what condition he was going to find when performing laparotomy. He now very rarely did the operation except for pyo-salpinx, and unless the symptoms justified it, he did not operate, whatever the condition that was indicated by local exploration. It was a matter of nicety of diagnosis to distinguish those cases in which there was

likely to be an eruption of pus into the peritoneal cavity, and in instances where there had already been several attacks of localized peritonitis this result was especially to be apprehended.

Aspiration, he thought, would not cure any case, but would simply evacuate the pus; and the latter was sure to return. In addition, fatal injury might possibly result from it by the wounding of the ureters, etc. As to peritonitis, he believed that in the vast majority of cases, (perhaps ninety-nine out of a hundred) localized peritonitis was directly caused by disease of the ovaries and tubes.

DR. W. M. POLK remarked that salpingitis is not a new disease. This constituted a pathological condition which has always existed, and which has been cured without laparotomy in a large number of instances. The treatment adopted in these cases was simply following out the suggestions of Sims and Emmet, to put the patient to bed, give opium, poultice the abdomen, and use vaginal douches. While there was a few cases which proved refractory, the most of the patients got well, with sound ovaries and tubes, and in many cases had babies afterwards. The affection used to be known as pelvic cellulitis; but in fifteen cases in which this diagnosis would formerly have been made without the slightest question, he had performed laparotomy, and had found not the slightest induration between the layers of the broad ligament. What he did find was a conglomeration of ovaries, tubes and new tissue upon the posterior fold of the broad ligament, and this he removed.

The peritonitis which he was accustomed to meet with, he believed had come directly from the tubes. Dr. Coe had stated that he did not find the latter diseased as often as was generally supposed; but for his part he could only say that he found these organs diseased very frequently. They might not contain pus; but they at all events presented the evidences of previous inflammation. He had reached the conclusion that, as a rule, the peritonitis so often met with was produced by extension of an inflammatory process from the cavity of the uterus. Inflammation preferred to take the course which was open; though after childbirth, abortion, etc., it might follow the course of the lymphatics and bloodvessels. Therefore, the large majority of cases of so called cellulitis were simply the result of ordinary endometritis, which might be produced in a thousand ways. This condition led directly to inflammation of the tubes and the peritoneal cavity, and a simple catarrhal inflammation of the endometrium would extend to the peritoneum as readily as that due to the poison of gonorrhœa.

Again, the purulent collections after a bad case of puerperal inflammation which have been supposed to be situated in the folds of the broad ligament, were in reality generally above the latter, and consisted merely of accumulations of pus first in the tubes, and later, if the accumulation was rapid, in the adjoining tissues. In regard to this whole subject he thought that the essential point was that we have got to change our pathological views before we can reach a unanimous opinion as to the advisability of laparotomy. A minimum number of cases, he believes, required this procedure, and the condition indicating it was usually localized peritonitis with salpingitis, and, as a rule, an atrophied ovary.

DR. P. F. MUNDÉ said that in examining the records of his private and hospital cases he had found that out of three thousand, one hundred and seventeen were put down as oöphoritis and salpingitis combined with peritonitis. He agreed with Drs. Wylie and Polk that these three conditions almost always coexist. In the three thousand cases there were besides two hundred and twelve cases set down as simple oöphoritis, without complications. These figures, he thought, answered the question of the title of the paper, and he should say, therefore, that disease of the uterine appendages are quite as frequent as Tait and his followers assert that they are. He would, however, state positively that in his opinion, operative interference for the relief of this was by no means as frequently required as they represented. He could not agree with Dr. Coe that pachy-salpingitis was very rare; but he believed that dilatation of the tube with fluid was not so common as many now suppose. Personally he had met with but eight cases in which he could detect an apparent enlargement of the tube. In four of these he had aspirated and drawn off a watery serum, which contained no ciliated epithelium.

Dr. Mundé went on to say that it was well known that he occupied a very conservative position in regard to Tait's operation. So long as surgeons in America could not perform laparotomy without exposing the patient to considerable risk of her life, he thought that it should not be done when there was any doubt about the pathological condition present, and that concerning this operation the lines should be more closely drawn than had heretofore been the case. Having expressed his disapproval of the removal of normal ovaries, he stated, in conclusion, that he did not agree with Dr. Polk in his views upon pelvic cellulitis and pelvic abscess. As a rule, he believed, the trouble existed actually in the pelvic cellular tissue,

DR. E. NOEGGERATH said that he was very glad to have Dr. Polk express the views that he did, as they were in entire accordance with those expressed by himself as long ago as 1872. The large majority of peri-uterine affections, he believed, were of peritoneal origin. It was true that cases of genuine cellulitis were sometimes met with; but this was only when there had been some lesion of the lymph-sac of the lining membrane of the uterus, after parturition, abortion, etc. If there was no such lesion, the inflammatory process always extended by way of the tubes.

In regard to the frequency of disease of the uterine appendages, he could only repeat what he said in 1872, that endo-metritis and peri-metritis, or salpingitis, are the most common affections the gynæcologist is called upon to treat. As to the matter of treatment, he was convinced that it was possible to relieve a great many of the cases, without operation, by careful local and general medication.

In closing the discussion, Dr. Coe stated that his anatomical studies had led him to look with some doubt upon a diagnosis resting on clinical observations alone. Fearing that the position which he had been thus forced to take as to the comparative infrequency of disease of the uterine appendages might perhaps be thought not altogether well supported, he had written to get the opinion of Dr. Wm. H. Welsh, now of the Johns Hopkins University, of Baltimore, who was acknowledged to be one of the most distinguished microscopists in the country, and who had had thus a very large experience in this special field. Dr. Welch had replied that he believed Dr. Coe's position was correct. He said that he saw very few cases of pyo-salpinx in

his examinations, and that he was continually receiving ovaries and tubes which had been removed by laparotomy, which were, as far as he could make out, entirely free from disease. He furthermore stated it was a mistake to suppose that the so-called cystic ovaries would degenerate into cystoma.

Recent Literature.

Cancer. A Study of three hundred and ninety-seven cases of Cancer of the Female Breast, with Clinical Observations. By WILLARD PARKER, M.D. New York: G. P. Putnam's Sons. 1885.

This little monograph occupied the last days of the author's laborious life. It does not aim at being a thorough treatise on the subject of cancers, but presents the results of Dr. Parker's very extensive clinical experience with the disease, and the conclusions, especially in regard to Etiology, which he is inclined to draw from his long study of the subject.

Briefly, he finds cancers most prevalent among people who live luxuriously, and in whom consequently the waste products of the body are in excess. Many wild peoples are almost exempt. This also holds true in the case of animals, domesticated animals being subject to the disease from which the wild animals are free.

He regards mental afflictions as favoring its productions, and says, "There are the strongest physiological reasons for believing that great mental depression, particularly grief, induces a predisposition to such a disease as cancer, or becomes an exciting cause under circumstances where the predisposition had already been acquired."

Dysmenorrhœa and other uterine irregularities may favor the production of the disease. Local irritations of an epithelial surface he regards as a direct exciting cause.

In the matter of treatment, he gives his opinion so concisely that we will quote it entire: "Some very practical hints as to treatment may be taken from what has gone before. Avoid the so-called predisposing causes, that is, unnecessary luxury in mode of life; especially abstain from eating food rich in nitrogen. Urge your patient to take sufficient exercise; point out the necessity of cleanliness, and avoiding all articles of dress that would induce irritation of the skin by pressure. Persuade her to cultivate cheerfulness of disposition, and regulate her various functions, particularly that of menstruation. All this will tend to forestall the development of the disease.

"But let it be supposed that we have a case of cancer to deal with. There is such a *consensus* of opinion as to the advisability of early removal of the growth, that a discussion of this subject would be useless. So then, in the first place, let us remove the tumor, and thoroughly. But often we have done so, after we have taken it out by the very roots, is this sufficient? No! We must then adopt the means stated above to prevent a second development."

The reader cannot fail to get many valuable hints from Dr. Parker's very practical treatise. It is a hopeful sign to find an observer of strong common sense and wide experience making investigations and offering suggestions towards the prophylaxis of cancer.

This is certainly a healthier attitude than the hopeless indifference so often manifested by physicians, towards this dreaded disease.

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ARSENIC IN WALL-PAPER.

IN the JOURNAL of March 11th, attention was called to the hearing, then in progress before the Committee on Public Health of the Massachusetts Legislature, relative to the expediency of legislation to protect the public against the sale of paper-hangings containing poisonous substances. We stated briefly at that time such facts as seemed to us established by competent evidence and expressed the opinion that some legislation was demanded in the interest of the public health. The Committee has given eight days to the hearing of this case, and for once, in this country, the question has received the thorough investigation which its importance demands.

One of the first questions considered by the Committee was this: Is there any evidence that health is endangered by the use of arsenical wall-papers? Upon this point much evidence was submitted. The nature of this evidence was similar to that which has appeared from time to time during the past ten years in the medical journals, and comprised the statements and letters of some forty persons, residents of this State, describing their symptoms, together with the statements of several physicians, from Boston and vicinity, two of whom had made an extended investigation of the subject of arsenical wall-papers, and all of whom presented the history of cases which had come under their immediate observation. The petitioners claimed that these cases were properly referred to arsenic as the cause, (1) because the symptoms suffered were recognized symptoms of arsenical poisoning; (2) because analysis of the wall-papers in the houses of these persons revealed the presence of arsenic; (3) because recovery took place when the person removed from the influence of the arsenical paper, or when their rooms were re-papered.

Considerable documentary evidence was also introduced relative to the extent of the use of arsenical pigments in the manufacture of wall-papers and to the injurious effects of such papers. The strict regulations which exist in some of the European countries were also adverted to for the purpose of showing that this subject has been considered of sufficient importance to

attract the attention of the legislative assemblies of foreign countries.

We have no intention of entering further into the details of the testimony presented by the petitioners. We desire at this time to call the attention of our readers to the character of the expert testimony presented by the remonstrants. It is noticeable that the opposition to legislation comes almost entirely from the State of New York. The principal expert brought forward by the remonstrants was Prof. C. F. Chandler, whose testimony was extremely discreditable to a scientist of his ability and position. We notice with surprise that the *Medical Record* for April 10th, in an editorial which is well calculated to deceive its readers in regard to the character of the evidence presented to the Committee, takes essentially the same position in this matter as is taken by Prof. Chandler. It is worth while, therefore, to put on record, a few of the most remarkable statements of this well-known expert.

Prof. Chandler says that "as president of the Health Department of New York, having it in my power to enforce any regulation I considered proper, I carefully considered the whole subject of arsenical wall-papers, read everything which was published of weight or of value and concluded that there was nothing in it. I found, by searching in obscure journals, alleged cases had been found which occurred ten, twenty, or forty years ago, in which it was said on very meagre evidence that persons had suffered from arsenical wall-paper, but, as I could not find that persons in New York had suffered by it, I saw no occasion to take any action."

"I have experimented," says the witness, "upon the question whether or not it is possible for arsenic to leave the wall of a room, or wall-paper in the form of arseniuretted hydrogen. It is impossible for such a thing to take place. The best authorities known to chemistry say that it is impossible, and in experiments instituted in my own laboratory no arseniuretted hydrogen was given off." We have no desire to criticise Prof. Chandler's experiments (which were not made by him personally) further than this: that Reinsch's test, which was employed to detect the arsenic, is not a sufficiently delicate test for this purpose, in an experiment of this kind. He justifies its use by the statement that Prof. Wormley can detect with it the one-hundred thousandth of a grain.

This is, however, said for effect merely. We do not believe that Prof. Chandler will claim that he can detect as small amounts as Prof. Wormley, who is a very delicate manipulator, can; neither do we believe that he will claim that he can detect as small amounts of arsenic by Reinsch's test as he can by Marsh's test. It is noticeable that Prof. Chandler did not consider the result of his experiments on this important matter worth publishing. His reasons for not putting them on record are curious. "I did not care to enter into a controversy with the distinguished chemists in Boston on the subject of arsenical wall-papers."

Prof. Chandler is one of the associate editors of Johnson's Universal Cyclopædia, of which a carefully revised edition was issued this present year. Under the article "Arsenious Oxide," over the signature C. F. Chandler, may be found the following: "It is also said that arseniuretted hydrogen, a very poisonous gas, is generated in damp weather." Why did he not mention his experiments, which, as he claims, show conclusively that this gas is not formed? The distinguished expert states that the experiments of Dr. Fleck and Dr. Hamberg relative to the formation of arseniuretted hydrogen "are, neither of them capable of bearing any criticism whatever." He does not, however, tell us why. We believe we are justified in the statement that the positive result of Fleck and Hamberg are of more value than the unpublished negative results of Prof. Chandler's assistants. (We will here take occasion to say that the experiment described in the editorial in the *Record* as made by Prof. Chandler, was not made by him but was made by Mr. Phillips in 1858.)

Prof. Chandler quotes a number of authorities, most of them twenty years old, in support of his opinion that arseniuretted hydrogen is not given off from arsenical wall-paper. He cites, for example, an opinion of Dr. Hoffmann given in 1862. He denies any knowledge, however, of the Report of the Imperial Board of Health of Germany and the chemical experts, among them being Dr. Hoffmann, in which it is stated that the injurious action of wall-papers is due in part to the continued formation of arseniuretted hydrogen.

This is Dr. Hoffmann's opinion in 1878 or 1879. He also cites Dr. Taylor in support of his opinion. Dr. Taylor in his treatise on poisons, however, refers to Dr. Hamberg's experiments, and says that his results are in strict accord with the physiological facts.

The following quotations from Prof. Chandler's testimony will undoubtedly be read with amazement. "I have made arseniuretted hydrogen myself certainly more than one hundred times. I have had students making it, and making it carelessly, and allowing it to escape into the room, and I never knew any one to be injured by it. All over the country every student makes it several times, and I never knew a case except those mentioned in the books many years ago, and never heard of one. I consider a small quantity comparatively harmless. I should not care to put my nose to the apparatus. But I make it in my laboratory before classes of students, and I have done so ever since I occupied the position, and I never have been injured by it or suffered any inconvenience, nor knew anybody else to be, out of two thousand cases."

This statement illustrates the extent to which the witness was willing to go in aid of his employers. It really requires no comment. It may be well, however, to say that Dr. Hoffmann, who is, according to Prof. Chandler, the first authority in chemistry, describes arseniuretted hydrogen as a perfectly frightful substance; while Dr. Taylor, whom Prof. Chandler rightly considers the authority on poisons, says: "It

is one of the most formidable poisons with which we are acquainted." The *Record* even, while satisfied apparently that Prof. Chandler has settled the whole question of arsenical wall-papers, evidently does not agree with him in the surprising opinion which he has given with reference to the character of this gas: for, it says, "A very small proportion of arsenic breathed as arseniuretted hydrogen would cause immediate sickness. It is therefore clear that this form of arsenical poisoning is to be greatly dreaded." We would suggest to Prof. Chandler that, if he has never heard of a case of poisoning by this gas except those mentioned in the books many years ago, he must have neglected his journals. A number of cases have occurred within a comparatively few years.

Prof. Chandler further says that obtaining from wall-paper in the tube of a Berzelius-Marsh apparatus a mirror which has the appearance of an arsenical mirror, and which gives upon heating the characteristic odor of arsenic is not a reliable test. "It is only suspicious." Comment is unnecessary.

Prof. Chandler's opinion that one grain of arsenic per square yard would be entirely harmless, and that this would be a safe limit in case a law is passed, demands a word. He says: "It seems that one grain would shut out any arsenical pigments; and there would be no use in putting in one grain; and if it got on it would be by accident." Such a limit would, however, defeat, to a considerable extent the object of the proposed law, and was evidently suggested for this very purpose; for while papers frequently contain more than this amount of arsenic, the larger proportion of arsenical papers, without doubt, contain less. A law allowing this amount would therefore afford the public but little more protection than it enjoys at present. The statement that one grain of arsenic per square yard of paper must be attributed to impurities is wholly unreasonable.

The extracts we have given illustrate the character of Prof. Chandler's testimony; testimony which will go on record as the most surprising ever given by a scientific man.

We have no wish to enter into any discussion of the testimony of his associate witness, Mr. Henry Morton, who agreed with every statement which Prof. Chandler made in regard to the subject, and whose testimony is subject to the same criticism which applies to that of Prof. Chandler.

HYSTERIA AND SPIRITISM.

A Correspondent in a neighboring city has written us a curious account of the prevalence in his community of certain phases of spiritism. Communication with unseen "spiritual" agencies becomes a part of the ordinary business affairs of life; men of high position consult their favorite "medium" before investing money, or engaging in any important enterprise: sick people apply to the clairvoyant doctor, till their malady threatens to be serious. These mediums our correspondent has found to be ignorant, superstitious, and neuropathic, and yet he has heard of reputable (?) physicians applying to such for advice; he would as soon consult any insane or hysterical person! Our correspondent has formed a club for investigating spiritism, and has taken considerable pains to inform himself as to the workings of the system. He has seen much "table tipping," and has found striking confirmation of the principles laid down by the late Dr. Carpenter; "expectant attention" and "unconscious muscular action," explain all the phenomena (some of which were very curious) which he has witnessed. It is interesting to observe, in a number of persons sitting together, and with their minds fixed on the one object (the moving of the table), how this "expectant attention" will convulse the muscles of the arms. "There is nothing," says the writer, "connected with the spiritist manifestations which I have seen, not explicable by morbid states of the lower cerebral centres, the seats of involuntary psychic action." Spiritualism has undergone considerable development since the first advent of communications by raps, in Western New York. The belief in manifestations by unseen powers, has created the desire and demand to *see* these agencies, and where there is a steady demand there is generally a supply — especially when the things *pays* — hence the prevalence of "materialization" seances.

Our correspondent was not allowed access to any of these seances unless he would give a pledge beforehand not to violate "the conditions" (that is, attempt an exposure); this he was unwilling to do, and hence, in the absence of consent on the part of the managers to allow the proper scientific tests to be applied, he very properly pronounces this "materialization" phase to be fraud and trickery of the grossest kind. Another phase is that of "possession" and "control" by spirits, whose influence the medium assumes to feel, directing the vocal organs and other apparatus of expression; sometimes this influence is so powerful as to cause muscular tremors, and even convulsions. It is not unusual for mediums to go into convulsions of a decidedly hysterical kind when "under control." But there is nothing new in this. The Pythia, or female who delivered the Delphian oracle, was chosen from among the insane, the epileptic, or the hysterical (the epileptic and hysterical were, in ancient times, regarded as the fitting mediums by which the gods communicated to men); witches and necromancers were always persons of highly neurotic temperaments, and the ancient sibyls went into convulsions before uttering their prophecies.[1] The explanation of "control" given by our correspondent undoubtedly finds a wide general applicability; "the 'medium' is a person of unstable nervous organization; is of neuropathic parentage; is credulous and excitable; readily yields to dominant impressions, in fact, is of insane and hysterical neurosis."

The writer gives numerous facts from his experience which go to substantiate this statement, which, however, does not cover all the cases; many that are

[1] See Virgil's "Æneid," Book VI, line 45.

making money by assuming to be "trance mediums," "speaking," or "writing mediums," are conscious frauds and humbugs. The pretended revelations or "spirit communications" of these mediums — good, bad, and indifferent — "never, to one approaching them in a true scientific and sceptical spirit, amount to anything," although it is an easy matter for such mediums to worm information out of an unwary and too credulous visitant. One evil, the consequences of which cannot be too plainly pointed out, is the encouragement which is given to giddy females and others who are believers in spiritism to cultivate mediumistic powers. The evil is apparent when we consider what "to come under control" (a word in common use by believers in this superstition) means. To *come under control* is to lose the voluntary control, to become emotional and excitable, and to be governed by the impulses of the lower nature. This fact should be impressed on all those who are inclined to pin their faith on what "mediums" say; the state of "spirit control" is a deteriorated mental and physical condition, akin to hysteria, and sure to lead to the most grovelling superstition, to nervous instability, if not to psychical ruin.

One of the local mediums visited by the correspondent aforesaid was clearly a victim of insane hallucinations. In the semi-trance condition which he could assume at will (a partially conscious state, which was generally ushered in by slight convulsive movements), he professed to hear voices, and to see spectral forms, his description of which was quite graphic. One peculiarity of these manifestations was that the "spirit" always came to him as the *fac simile* of the person when "in the body"; many of these apparitions were old and decrepit, or lame; some had lost an leg or an arm (spirits of soldiers), etc. This medium had the reputation of being truthful, but was making some money at the business, which might be an incentive to fraud; he had long cultivated the faculty of "going off" into a trance and seeing his spectral visitants; the result on his nervous system and general health had been bad.

Physicians unquestionably owe a duty to their patients, to whom they may be teachers in reference to these obscure phenomena of the involuntary life. Not that they can refute or explain a tithe of the great mass of testimony which the superstitious and credulous can produce; but with regard to this a respectful, reasonable scepticism is justified. The phenomena connected with hypnotism and trance are very mysterious, and the exaltation of certain psychical faculties in these states seems sometimes almost suggestive of inspiration, but around this subject there is an immense amount of unverifiable and apocryphal statement.

Doubtless, if human — non-expert — testimony is to be relied on, every absurdity which the spiritist affirms has been proved superabundantly. But here the utmost caution is necessary. The conscientious scientific expert (and every physician should be such) who investigate carefully, and with no bias but the desire for the truth, will find little confirmation of all that mass of evidence which has built up such works as "Footprints on the Boundary," "The Debatable Land," etc. He will either be impressed with the utter unreliability of all non-expert human testimony, and will recognize the justice of the philosophical standpoint (according to Rénan) of the sage Emperor Hadrian; "Il avait été temoin de tant d'autres miracles; et il n'en avait tiré qu'une conclusion, c'est que le nombre des choses incroyables dans ce monde est infini.[2]

MEDICAL NOTES.

— The consular and other returns to the National Board of Health, show yellow fever to be prevalent in Rio de Janeiro. The disease has been advancing steadily since January 1. During that month, 132 deaths were reported in a hospital recently opened; 124 cases were admitted from January 21 to 31. Of this number, 28 died, and 36 had been discharged cured at the date of the report. Reports state that the yellow fever which prevailed in Vera Cruz last year was less virulent than in previous years. Total deaths reported, 140. From January 16 to 29, 16 cases and 12 deaths from cholera were reported in the Department of Finisterre, France. In the town of Douarnenz, in this Department, 44 cases and 7 deaths were reported between January 3 and February 8. On February 11, 9 cases remained under treatment. It is reported that the disease was introduced by fishermen from the Spanish coast in September last, and that the spread of the disease was greatly favored by the unsanitary condition of the houses, the overcrowding of the inhabitants, and the excessive use of alcoholic liquors. From September to the date of the report, there had been 394 deaths. At Tarifa, in the province of Cadiz, Spain, from January 23 to February 7, 260 cases and 86 deaths from cholera were reported. In Italy, cholera has appeared at several places during the winter, and while the disease has not assumed epidemic proportions, it is not regarded as having been entirely suppressed.

NEW YORK.

— The meeting of the New York County Medical Association held April 19th, was entirely devoted to memorial exercises in honor of the late Professor Austin Flint. After appropriate introductory remarks by the President, Dr. Charles A. Leale, a series of resolutions for adoption by the Association, which had been prepared by a special committee, was read by the Chairman, Dr. John Shrady, Vice-President of the Association. Addresses were then made by Drs. Wm. H. Welch, of the Johns Hopkins University, Baltimore, and T. R. Varick, Surgeon-General of the State of New Jersey; and by Drs. L. A. Sayre, E. G. Janeway, J. Lewis Smith, Joseph D. Bryant, Frank H. Hamilton (read by Dr. Ira B. Read), F. R. Dennis, Isaac E. Taylor, and other members of the Association. The Secretary, Dr. P. Brynberg Porter, then read

[2] "Hadrian had been witness of so many other miracles! and from all had been able to draw but one conclusion, that the number of incredible things in this world is infinite!" Rénan. Eglise Chrétienne, p. 41.

letters of regret from Professor N. S. Davis, of Chicago; Dr. E. M. Moore, of Rochester, President of the New York State Medical Association; Dr. E. D. Ferguson, of Troy, Secretary of the State Association; Dr. Joseph R. Hutchinson, of Brooklyn; and Dr. William Detmold, ex-President of the County Association.

— At a meeting of the Hospital Saturday and Sunday Association held at St. Luke's Hospital, April 19th, the seventh annual report of the Association was read. This stated that the general hospital collection for the year 1885, which amounted to $46,085.38, and was the largest that had as yet been made, furnished indubitable proof that the movement was growing in public favor, and that it realized a very general desire for a single instrumentality broad enough to serve as a common channel of benevolence for any form and shade of religious or social opinion. A large part of the increase in the receipts last year — nearly $10,000 — came from sources to which no direct influence could be traced, which was regarded as a special indication of the growth of the movement in public esteem. This increase came largely from the two extremes of society, the opulent and the poor. The contributions made by the poor were, to a considerable extent, made up of the ten, twenty-five, and fifty-cent offerings of sewing women.

All sums contributed by trades are held as a reserve fund to be drawn upon for the care of patients recommended by trade contributors. In the receipts from the various trades, those from the dry goods trade stood at the head, $4,350, and the total amount from the trades was $10,719. The exchanges contributed $2,202. Of the churches, the two bodies contributing the largest sums were the Protestant Episcopal and the Presbyterian. The former gave $16,184, as against $11,527 in 1884; and the latter gave $6,898, as against $4,280 in 1884.

The report shows that the contributions sent to the Association for certain designated hospitals in 1885 were $13,113.43; while those sent to be distributed at the discretion of the Association (a bent to which there is a growing disposition on the part of the public), and which is termed undesignated, amounted to $32,931.95. Since the last report, the Home for Convalescents and the Montifiore Home for Chronic Invalids have been added to the membership of the Association.

Correspondence.

LETTER FROM PAU.

Pau as a Winter Resort.

Pau, April, 1886.

Mr. Editor, — Pau, in South Western France, is equidistant from Bordeaux and Toulouse, about five and one-half hours by railway. From Paris one may go by rail to Pau, express, in sixteen and one-half hours; or by steam from Liverpool to Bordeaux in two days or from London in sixty hours. The steamers from the former port belongs to the Pacific line and are large and fast. From London the boats are smaller but still are comfortable. The trip by sea, via Bordeaux, is much less expensive than the route by the way of Folkestone or Dover, and across to Boulogne or Calais. The latter method of reaching Pau obliges the traveller to pass through Paris. To the majority of invalids, however, the less they see of the English Channel and Bay of Biscay would probably be the better for them. Much would depend upon their "sea-going qualities." Historically, Pau is well known as the birth-place of Henry of Navarre and of Bernadotte, afterward King of Sweden. The very interesting castle in which Henry was born was restored by Napoleon III. The cradle of the wily Henry, an enormous tortoise-shell, is still exhibited; also two steel forks which he used in later years. To-day they would be considered convenient eel-spears.

From the château, or from the promenade (*Boulevard du Midi*) which passes the front of it, one looks across a lovely valley and the noisy, glittering river and beyond the Coteaux — exquisite verdant hills of gentle slope enlivened by villas — upon the superb range of the Pyrenees, extending from East to West. A mass of pure snow broken into lofty peaks and vast mounds, interspersed by suddenly disposed crevasse and valley. Under the refracted light of the sun, silver and thousand hued color beautify this wonderful prospect and the eye is fascinated. Imagine a clear blue sky as a background and you have a picture which indeed must be rare, even when one considers the immense resources of nature.

Before referring directly to the climate of Pau it may be said with Taylor, that climates having a curative reputation often disappoint invalids because the latter bring exaggerated expectations and often will not patiently wait for proper effects. "There are three wants," says Emerson, "which never can be satisfied: That of the rich who wants something more; that of the sick who wants something different, and that of the traveller who says: 'Anywhere but here!'" The invalid seeker for climate is too apt to become a victim of climate. He acquires climateophobia. He wants something different. He finally chronically says: "Anywhere but here." If the invalid needs to learn anything it is patience in hope, avoidance of overwrought expectations and willingness to give a new remedy and especially a new climate *time*. The latter often requires absolute changes in the functions of the body before it can do its proper work. If the round peg which has long been in the square hole possessed sensation, it certainly would be conscious of the discomfort of newness when first put into the round hole. Such is apt to be the experience of an invalid during the early days of his stay in a new climate, utterly unlike his native air. This may be said to be especially true in connection with Pau. The guide-books speak of the climate as "delicious." The invalid perhaps reaches Pau during a rainfall which may continue more or less steadily for ten days or a fortnight. The stranger naturally is disgusted and at the end of the first week says: "*Anywhere but here.*" To the bitter complaint of continuous rain, on the part of a gentleman who had brought his invalid wife to Pau, I replied that if the rain fell for three months, his wife nevertheless would steadily improve, and he admitted that she had already made very apparent gain. This is perfectly characteristic of Pau. That charming and clever story, "The Sun Maid," gives one a true sense of the feeling with which those who know Pau regard her: "We love her in all her moods."

In choosing climates for them the physician should warn his patients that visions of countries where the sky is always blue, the breeze soft and perfumed, the air unchangingly agreeable and rain a thing of half-hours, are mere dreams. Invalids rarely possess steady common sense, therefore it should, if possible, be taught them by the physician. The patient must keep his mental sunshine when the skies are overclouded and be willing to give his chosen climate *time*. Invalids frequently leave Pau in impatience after a week of continued rain. They try other climes and return to Pau to remain for years to their great advantage. Still in regard to climate every invalid is his own law. The best the physician can do is to send certain cases to a certain resort, because many other similar cases have been relieved by its climate. Nevertheless, just as

quinine may fail to help the one-hundredth case of malaria, so a given climate may fail to relieve the hundredth case of pulmonary weakness after having relieved or cured ninety-nine invalids similarly affected.

The most striking peculiarity of the Pau climate, in which relatively rules a very steady barometic pressue, is a singularly persistent quietude of the atmosphere. This is due to the situation of the town. By long ranges of hills which are separated from Pau by a wide valley, the northerly winds are shut out and the southerly breezes are cooled and their force is broken by the snow-peaks of the Pyrenees. The north-east and south-east tops of these mountains form opposite Pau an open angle through which the north wind which has been turned back by hills is forced to enter the Pau valley as a north-east wind. Meanwhile the lower hills at the North quiet the force of the wind. The prejudicial effect of north-east and south-east winds is seldom felt in Pau and the "Mistral" which so frequently storms upon the Mediterraneam coast is here unknown. The west wind is the most noticeable and since it comes from the Atlantic Ocean and perhaps is charged with salty elements, is rather beneficial to invalids than otherwise. During the Spring when east and west winds prevail both have a relatively mild character. The stillness of the atmosphere is so great that it is often difficult to decide from which quarter the wind comes. On many consecutive days the leaves upon the trees are not seen to move. I one day saw an immense paper balloon, fully six feet in diameter, ascend from the Place Royale. It mounted straight upward at least one mile, stood absolutely still many moments and then slowly wandered southward. This impressively showed the immobility of the air. The story is told of a naval officer who had fought many a storm at sea, that he left Pau in disgust, because during his stay of two years he so rarely encounted "a capful of wind." Observation shows that north-west winds prevail in summer, southerly during the winter, and west winds in spring. It will be seen, then, that the cold of winter being tempered by southerly winds, together with the extraordinary quietude of the atmosphere, the climate should act beneficially upon irritable air passages and upon lungs which are either predisposed to or are a prey of active disease.

Temperature. The mercury rarely falls below 32° F., and then generally during the night. A temperature of 20° F. and a persistent fall of snow which occurred only twice in fifty years are naturally very rare. Snow falls nearly every winter, but in a mild coquettish manner, during a brief period, melting almost at once. Although changes of temperature are sudden the oscillation is not great. The winter seldom lasts more than six weeks. As a general rule, one nearly without exception, if weather at Pau be more than usually severe it is found that during the same period, the weather of latitudes south of Pau far exceeds that of Pau in severity and duration. One writer has noted that on a Christmas day, when the mercury in England falls to —7° F., in Pau the thermometer registered 64° F. in the shade. The mean of lowest temperature in Pau during a period of eight years was as follows: In November, 46.9° F.; in December, 42.5°; January 40.5°; February, 43.2°; March, 47.9°; April, 53.3°. The mean of highest temperature during the same period was: November, 54.4° F.; December, 48.1°; January, 47.1°; February, 50.4°; March, 56.1°; April, 62.2°. My own observation shows an average daily oscillation of about 12 degrees and the temperature rarely falls below 40°–42°. At noon on sunny days the mercury usually stands at 50°–60°. The temperature from 9 A.M. to 3 P.M., ("invalids hours") averages in November, 50°; December, 44.4°; January, 43°; February, 46.1°; March, 52°.

Considerable rain falls in Pau but seldom longer than two days at once. The average number of rain days is: in November 10, December 11, January 12, February 10, March 11, April 15. Fogs are rare. Clouds usually mean rain. Vegetation is not tropical like that of Nice with its palms, citrons, oranges, pomegranates, growing luxuriantly in the open air. This shows that the night temperature of Pau is lower than that of Nice, but the quiet of the atmosphere, which continues in Pau for weeks together, renders the colder days less noticeable. In no other winter resort in Europe is there such freedom from winds, and this is a boon to the invalid. Referring again to the rain days, Pau stands rather high in the list, but rain is generally followed by warm sunshine and the sandy soil prevents enduring dampness. Indeed, a marvellous attribute of the atmosphere is its freedom from *communicable humidity.* The climate may be termed moist, but one is amazed to observe that nothing rusts, that even during continued rain everything within doors remains not only absolutely dry, but that articles of flannel or linen which have been put aside continue perfectly dry. A saturated towel or sponge will in a few hours during rainy weather become quite free from moisture. This is explained by the absorbent qualities of the soil and by a peculiar electric state of the atmosphere. Patients should be warned against a feeling of discouragement because of frequent rainfall, for, in spite of this, the general strength steadily increases. Rain falls suddenly and in large quantities, yet in a few hours the gravelly soil is dry, and if properly clothed invalids may go out nearly every day. This peculiarity of Pau weather gives a feeling of warmth which would be absent in another climate, in which at the same temperature, or even at a higher degree, the air because of its *free* humidity feels sharp and bleak. This may be illustrated by quoting from Sidney Lanier's book on Florida. "While at St. Augustine," he writes, "I sometimes went out in the morning and found the air so cold that I was obliged to return for my heavy overcoat. I then looked at the mercury and found it at 59° F. and wanted to kick the thermometer!" An atmosphere which contains an excess of *free* communicable humidity, chills even when the temperature is moderately high, especially if there be a wind. In Pau invalids find the air agreeable even when the mercury stands as low as 40° F. As Dr. Luther Parks, a well-remembered Bostonian, who has resided many years at Pau, remarked to me, "The difference between the two climates is that between a saturated sponge and a sponge squeezed out. Though the Pau climate may be termed moist and enervating (*sedative* is the true word) and thus resembling Pisa, this must not be confused with what is usually called dampness.

The celebrated Louis having read Taylor on the climate of Pau (an excellent book), thought it the work of an enthusiast, but having afterward passed a winter here, he expressed himself strongly in regard to the absence of free humidity in the atmosphere and in reference to the feeling of warmth in Pau at a temperature which elsewhere would seem cold. He quotes a case of phthisis in which the patient, a lady, found her health better at Pau during a stay of two years than during a long stay at Jamaica.

(To be continued.)

CHRONIC TEA POISONING.

NEW YORK, April 20, 1886.

MR EDITOR,— In Dr. Bullard's interesting article upon "Chronic TeaPoisoning," published in the JOURNAL of April 8th, he states that he has been able to find only general statements, and no statistics bearing on this subject. In the *Medical Record* of January 24th, 1880, I published an article entitled "Tea-tasters and the Healthfulness of their Pursuits." Dr. Bullard has evidently overlooked this, since the article does contain some facts and statistics with regard to the question in hand. He will there find also some references to the observations of Dr. Wolfe on the same subject.

My own observations covered a somewhat different line from those of Dr. Bullard. I found that a person must take from seven to eight cups of tea daily to get an average dose of thein, and that professional tea-tasters who were inhaling and sipping tea-infusions all day long were a very healthful class of men.

For several years I have been in the habit of questioning dispensary patients as to their tea-drinking habits, and I can agree in the main with Dr. Bullard's views. Yet it has seemed to me that for the production of chronic tea-poisoning in adults, there must generally be some especial weakness or susceptibility of the system. By far the worst thing about the use of tea which I have observed, is the almost universal habit among the poorer classes of giving it *ad libitum* to their children. This practice is an extremely common one in New York. It is fruitful of harm, and as it springs simply from parental ignorance, it is a practice that might be corrected by a little missionary work, on the part of newspapers, health boards and physicians. Very truly yours, CHARLES L. DANA, M.D.

PHYSICAL EXAMINATION OF CANDIDATES FOR THE UNITED STATES NAVAL AND MILITARY ACADEMIES.

BOSTON, April 20, 1886.

MR. EDITOR,— Members of Congress when having the right of nomination in their districts generally ask some physician to examine the young men who apply for the position. Such examination includes that of the visual power and color sense of the candidate. As only a certain amount of hypermetropia or of myopia will be passed by the United States medical examining boards and no degree of color-blindness by the naval medical board, it is pretty important that defective vision for form or color should be detected by the doctor certifying to the young man's physical condition.

It is more than mortifying to young men, who pass an excellent examination, to be afterwards thrown out for physical defects. Cases have applied to me, and I have heard of others, of excessive myopia and color-blindness, when months were wasted in preparing for the ordeal. If the physician originally applied to cannot be sure of the degree of hypermetropia or myopia, it certainly would be better to send candidates to the nearest ophthalmic surgeon who can decide, than to have the young man rejected by the medical board afterwards.

Defects of the color sense may readily escape detection by methods of testing ordinarily used, as asking the names of colors, etc. The surest means is to apply Professor Holmgren's test with the worsteds, as will be done to the candidates by the medical board. They, however, will have a proper collection of worsteds, but exactly the same can be procured of N. D. Whitney & Co., 129 Tremont Street, Boston, with whom I arranged to keep on hand type collections, at the request of the American Ophthalmological Society.

Physicians have written to me from different parts of the country complaining of their utter inability to apply Holmgren's test as described in my manual. On investigation I have found that they did not have a proper set of worsteds, but some of the imitations advertised and sold in New York and Philadelphia. An examination of these imitations showed that they could not possibly be used to properly carry out Holmgren's test. I hasten to say that I have no pecuniary interest in Mr. Whitney's sale of worsteds. I am desirous that the now necessary application of Holmgren's brilliant invention should not be interfered with by tradesmen's ignorance or cupidity, and that physicians should not be imposed on.

Yours truly, B. JOY JEFFRIES, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING APRIL 17, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Whooping Cough.	Diph. and Croup.
New York	1,439,039	698	263	16.94	16.80	2.24	3.08	5.30
Philadelphia	971,363	439	149	11.73	12.65	2.07	.46	2.76
Brooklyn	690,000	255	91	13.26	12.87	1.17	2.73	3.12
Chicago	630,000	—	—	—	—	—	—	—
Boston	390,406	155	43	9.75	16.90	3.25	.65	1.30
Baltimore	417,220	163	65	6.71	15.25	.61	—	4.27
St. Louis	400,000	—	—	—	—	—	—	—
Cincinnati	325,000	127	46	8.69	10.27	1.58	1.58	1.58
New Orleans	238,000	—	—	—	—	—	—	—
Buffalo	202,818	—	—	—	—	—	—	—
District of Columbia	205,000	95	32	9.45	14.70	—	1.05	—
Pittsburgh	190,000	79	25	17.78	15.24	1.27	1.27	5.08
Milwaukee	—	—	—	—	—	—	—	—
Providence	118,070	44	4	4.54	29.51	—	—	—
New Haven	78,000	—	—	—	—	—	—	—
Nashville	60,000	—	—	—	—	—	—	—
Charleston	60,145	33	7	—	27.27	—	—	—
Worcester	68,383	23	11	—	8.70	—	—	—
Lowell	64,051	25	9	8.00	12.00	—	—	8.00
Cambridge	59,660	16	5	31.25	37.50	—	—	25.00
Fall River	56,863	22	7	9.00	13.65	—	—	—
Lynn	45,861	17	2	16.66	33.33	—	—	33.33
Lawrence	38,825	11	4	—	18.18	—	—	—
Springfield	37,577	7	2	—	14.28	—	—	—
New Bedford	33,393	13	5	19.38	38.76	—	7.69	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	7	1	—	28.56	—	—	—
Holyoke	27,894	—	—	—	—	—	—	—
Chelsea	25,709	13	3	—	—	—	—	—
Taunton	23,674	5	1	—	20.00	—	—	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	7	2	—	—	—	—	—
Brockton	20,783	7	3	14.28	14.28	14.28	—	—
Newton	19,759	6	1	—	50.00	—	—	—
Malden	16,407	6	2	—	33.33	—	—	—
Fitchburg	15,375	5	2	20.00	20.00	—	—	—
Waltham	14,609	5	1	—	16.66	—	—	—
Newburyport	13,716	6	3	25.00	—	—	25.00	—
Northampton	12,896	3	1	33.33	33.33	—	—	—
94 Massachusetts Towns	—	49	12	4.08	8.16	—	—	4.08

Deaths reported 2,242: under five years of age 802; principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 292, consumption 363, lung diseases 354, diphtheria and croup 90, whooping-cough 41, diarrhœal diseases 38, scarlet fever 36, typhoid fever 32, erysipelas 17, malarial fever 12, cerebro-spinal meningitis 11, puerperal fever eight, measles five, small-pox two. From scarlet fever, New York 14, Philadelphia and Brooklyn six each, Boston four, District of Columbia, and Pittsburgh two each, Baltimore and Cincinnati one each. From typhoid fever, Philadelphia 14, New York six, Cincinnati four, Boston and District of Columbia each two, Baltimore, Providence, Charleston and New Bedford each one. From erysipelas, Brooklyn five, Philadelphia four, New York and Pittsburgh three each, District of Columbia and Cambridge one each. From malarial fever, New York six, Brooklyn four, Baltimore and District of Columbia one each. From cerebro-spinal meningitis, New York four, Philadelphia and Fall River two each, Pittsburgh, Fitchburg and Northamptom one each. From puerperal fever Philadelphia. District of Columbia and Pittsburgh, two each, New York and Boston one each. From measles, New York two, Brooklyn, Providence and Chelsea one each. From small-pox, New York two.

In 111 cities and towns of Massachusetts, with a population of 1,242,199 (population of the State 1,941,465), the total death-rate for the week was 15.99 against 18.28 and 19.29 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending April 3d the death-rate was 22.2. Deaths reported 3,862: infants under one year of age 916; acute diseases of the respiratory organs (London) 506, whooping-cough 157, measles 97, diarrhœa 3, fever 30, diphtheria 19, scarlet fever 19, small-pox (Liverpool) one.

The death-rates ranged from 31.4 in Blackburn to 12.4 in Wolverhamptom; Birkenhead 22.4; Birmingham 22.1; Brighton 28.7; Hull 18.8; Leeds 18 9; Leicester 25 8; Liverpool 23.6; London 21 9; Manchester 25.6; Newcastle-on-Tyne, 20.5; Nottingham 24.9; Sheffield 23.2; Sunderland 15.6.

In Edinburgh 19.9; Dublin 34.4; Glasgow 25.6.

For the week ending March 3d in the Swiss towns, there were 45 deaths from consumption, lung diseases 33, whooping-cough 13, diarrhœal diseases 17, small-pox seven, diphtheria and croup seven, erysipelas six, measles six, scarlet fever three.

The death-rates were: at Zurich 24.8; Geneva 33.3; Basle 17.0; Berne 36.4.

The meteorological record for week ending April 17, in Boston, was as follows, according to observations furnished by Sergeant O. B. Colé of the United States Signal Corps. —

Week ending	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
Saturday, Apr. 17, 1886.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday, ..11	30.573	36.9	42.0	34.1	52.0	61.0	74.0	62.3	N.E.	E.	S.	11	14	8	C.	C.	F.	—	—
Monday, ..12	30.447	50.2	60.9	34.8	74.0	62.0	91.0	75.7	S.	S.W.	S.W.	4	13	13	C.	C.	O.	—	—
Tuesday, ..13	30.188	56.5	63.2	50.9	87.0	80.0	86.0	84 3	S.W.	W.	S.W.	13	14	6	O.	R.	C.	—	—
Wednes., ..14	30.288	47.6	55.1	43.7	87.0	75.0	82.0	81.3	N.E.	E.	S.E.	11	11	1	O.	C.	C.	—	—
Thursday, 15	30 373	47.6	60.2	37.3	86.0	63.0	93.0	80.7	S.E.	S.E.	E.	1	10	17	F.	F.	O.	—	—
Friday, ...16	30.555	40.7	43.5	37 3	91.0	81.0	91.0	87.7	E.	E.	S.W.	11	9	2	O.	O.	O.	—	—
Saturday, .17	30.523	45.1	55.1	39.3	90.0	85.0	68.0	81.0	S.W.	E.	S.W.	7	6	9	G.	C.	C.	5¾	0.04
Mean, the Week.	30.421	46.4	63.2	34.1				79.0											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM APRIL 17, 1886, TO APRIL 23, 1886.

TAYLOR, M. K., major and surgeon. Granted one month's leave of absence, on surgeon's certificate of disability, with permission to leave the limits of the department. S. O. 39, Department of Missouri, April 16, 1886.

GRAY, WM. W., captain and assistant surgeon. Ordered to Fort Maginnis, M. T.

WOODRUFF, EZRA, captain and assistant surgeon. Ordered to Fort Missoula, M.T.

ROBERTSON, REUBEN, first lieutenant and assistant surgeon. Ordered for temporary duty at Fort Snelling, Minn. S. O. 33, Department of Dakota, April 16, 1886.

WALES, PHILIP, G., first lieutenant and assistant surgeon. Granted leave of absence for one month. S. O. 56, Department of Columbia, April 8, 1886.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE FOR THE THREE WEEKS ENDING APRIL 17, 1886.

WYMAN, WALTER, surgeon. To represent the service at the meeting of the American Medical Association at St. Louis, Mo., April 12, 1886.

SAWTELLE, H. W., surgeon. Detailed as chairman of Board for physical examination of officers of the Revenue Marine Service, April 15, 1886.

URQUHART, F. M., passed assistant surgeon. Relieved from duty at Norfolk, Va., May 1, 1886, to assume charge of Cape Charles Quarantine, April 16, 1886.

YEMANS, H. W., passed assistant surgeon. Detailed as Recorder of Board for physical examination of officers of the Revenue Marine service, April 15, 1886.

HEATH, F. C., assistant surgeon. Appointed an assistant surgeon, April 15, 1886. Assigned to duty at Chicago, Ill., April 16, 1886.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING APRIL 24, 1886.

LOVERING, P. A., passed assistant surgeon. Ordered to Navy Yard, New York.

BIDDLE, CLEMENT, passed assistant surgeon. Detached from "Monocacy," ordered home and wait orders.

AMES, H. E., passed assistant surgeon. Detached from Navy Yard, New York, and ordered to "Monocacy."

CRAWFORD, M. H., passed assistant surgeon. Ordered to Naval Hospital at Washington.

Medical Director W. T. Hord, U. S. N., and Medical Inspector J. C. Spear, U. S. N., delegates to the American Medical Association to be held at St. Louis, on May 5, 1886.

SOCIETY NOTICES.

SUFFOLK DISTRICT MEDICAL SOCIETY. SURGICAL SECTION.— There will be a Meeting of the Section at 19 Boylston Place, on Wednesday evening, May 5th, at 7.45 o'clock. Communications: Dr. O. K. Newell, "Intestinal Suture." Dr. H. W. Cushing, "Experimental Research on Suture of Intestine." Dr. J. E. Kelly, "Notes on Fractures: with Special Reference to Fractures of the Clavicle and Colle's Fracture, and the Exhibition of Apparatus. S. J. MIXTER, M.D., *Secretary*.
180 Marlborough St.

BOSTON SOCIETY FOR MEDICAL OBSERVATION.— There will be a regular meeting of the Society at the Medical Library, 19 Boylston Place, Monday evening, May 3d, at 8 o'clock. Papers will be presented by Dr C. F. Folsom, "Two Cases of Acute Mania." Dr. E. O. Otis, "Backward Dislocation of the Phalanges upon the Metacorpus."

CHARLES P. STRONG, *Secretary*.

BOOKS AND PAMPHLETS RECEIVED.

The Influence of Sewerage and Water Supply on the Death-Rate in Cities. By Erwin F Smith, Ann Arbor, Mich. (Reprinted from a Supplement to the Annual Report of the Michigan State Board of Health for the year 1885. Reprint No. 243.)

Original Articles.

THE TREATMENT OF CANCER OF THE UTERUS.[1]

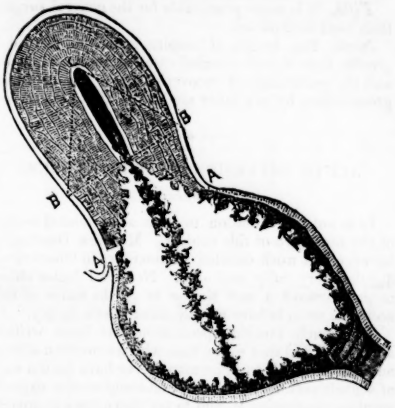
W. H. BAKER, M.D.

IN April, 1882, I published in the *American Journal of Obstetrics*, the description of an operation for cancer of the uterus, which has proved to give better results than any other form of high amputation, and which has been adopted by other surgeons with a like satisfactory result. As the steps of this operation are not well understood by the general surgeon, I have thought best to call the attention of the profession again to its description, which is as follows:

The patient being etherized and placed in the Sims' position, the cervix is seized with the volsellum forceps and dragged down as nearly to the outlet as possible. This not only facilitates manipulation, but diminishes, in fact almost entirely checks, the hæmorrhage which otherwise may be alarming. The portio vaginalis is then cut into anteriorly with the scissors, and the supravaginal cervix anteriorly is separated from the bladder with the scissors, aided by the forefinger in tearing the tissues. This part of the operation is similar to Schroeder's for the removal of the uterus by the vagina.

The same incision is then made into the vagina posteriorly, and the supravaginal cervix separated from the peritoneum up to the level of the internal os uteri. Thus it will be seen that the peritoneum is not purposely opened in an uncomplicated case, as is done by Schroeder's method. But the peritoneum is closely attached to the uterus at the level of the internal os, and it may accidentally be cut into, which has been my experience in two instances. The anterior and posterior incisions being now connected by lateral ones, and the supravaginal cervix separated on the sides in the same manner as was done in front and behind, the uterotome is to be substituted for the scissors, and a funnel-shaped portion of the body of the uterus cut out. This step of the operation is like Sims', with the exception that here it is possible to remove more of the body of the uterus, because here the base of the cone removed starts from the level of the internal os uteri at the junction of the peritoneum to the body of the uterus, both before and behind, and the apex of the cone removed extends nearly or quite to the fundus of the uterus; whereas, following Sims' method, the base of the cone starts from the level of attachment of the vagina to the cervix, and a portion of the supravaginal cervix and more of the body of the uterus must be left.

It is thus possible to remove the entire cervix, both infra- and supra-vaginal, and at the same time nearly or quite one-half of the body of the uterus, and that the most important half; for cancer of the body of the uterus, whether of primary origin or of extension from the cervix affect the glandular structure first, and by the method I have described, this, its natural habitat, is removed or destroyed. It is in the connective tissues which so predominate in the cervix that the disease there develops so readily, and this, it has been seen, is entirely removed. The actual cautery, at a red heat, is then applied to the whole denuded surface. This part of the operation takes considerable time; for, as the traction is relaxed, there is likely to be more or less hæmorrhage, and it often requires much patience to apply the cautery thoroughly enough to each and every bleeding point to feel secure in putting the patient to bed without tampon or other dressing to control hæmorrhage. It is possible to accomplish this, however, and it is a very great gain in the subsequent treatment of the patient. The operation can seldom be done in less than half an hour, and will frequently require from three-quarters of an hour to an hour.



So long as the disease has not touched the rectum, we may still hope to remove it entirely, as I have done in several instances, even though it has implicated the whole thickness of the vaginal membrane and submucous tissue quite to the peritoneum posteriorly over a large surface. The operation must differ from that just described, in that the incision into the vagina posteriorly must be made a full quarter of an inch beyond the line of any infiltration, and extend quite through into the peritoneal cavity, removing the whole of the upper vagina with the supravaginal cervix. Before applying the cautery, the edge of the healthy vagina should be stitched with silver sutures to the lower part of the posterior wall of the uterus. So too, if the anterior vaginal membrane be implicated in the disease, it may be dissected off the bladder. If the base of the bladder itself even be affected, so long as the ureters are not involved, we may cut away a large part of it, if we can thereby remove the entire disease, closing the fistula thus formed with silver wire before using the cautery.

The advantages claimed for this method of operating are:

First, That by it we are able to remove more of the uterus than by any other form of high amputation.

Second, The opening of the peritoneal cavity is not necessarily involved in its performance.

Third, The practicability of using the touch in determining the extent of the disease as the operation proceeds, is retained, which cannot be practiced when the galvano-caustic wire is used.

Fourth, All the advantages of the galvano cautery are retained by the application of the Thermo cautery at a red heat, to all the denuded surface, and made more effectual, even, by previously being sure that the disease as evidenced by the touch had been removed.

[1] Read before the Obstetrical Section of the Suffolk District Medical Society, February 17, 1886.

Fifth, It is more practicable for the general surgeon than total extirpation.

Sixth, The length of respite from the disease is greater than in any reported cases of total extirpation and the percentage of recoveries from the operation greater than by any other method of high amputation.

ACUTE INVERSION OF THE UTERUS.[1]

BY A. P. WEEKS, M.D.

IT is not my intention to give an extended review of the literature of this subject. Matthew Duncan, in his excellent work entitled "Researches in Obstetrics," did that very fully and ably. Nor do I desire either to put forward a new theory as to the cause of this accident, or to bolster up any other man's theory.

Too much fanciful speculation has been written already. I find that every man who has written a book on obstetrics, although he may never have seen a case of acute inversion, has felt himself competent to express opinions concerning it, and to lay down laws to govern other men's practice in the management of it.

As the observations noted in my case do not harmonize with the teachings of many of our systematic writers on obstetrics, I have collected as many histories of cases as my time would admit, which, together with my own case, I wish carefully to review, in order that we may see what *experience* teaches of this dangerous accident.

REPORT OF MY CASE.

Mrs. M——, aged twenty-two, primipara; rather anæmic; never strong; of slight build, but well-formed; at full term; without previous pain, had the membranes rupture about seven o'clock on the morning of the 23d of June, 1883. She had no pains worth noticing until late in the evening following. About three o'clock in the morning of the 23d, that is, twenty-one hours after the escape of the waters, I was called. I found the os just commencing to dilate. The head was presenting, and I could distinguish the position, O. L. A. The pains were sufficiently frequent, but short. I did not remain with the patient, but called in frequently during the forenoon to watch the progress of the case.

About noon, I went to the house to remain till the completion of the labor. At, or near one o'clock, the head had descended so as to rest on the perineum, but had not escaped from the os. The pains now, instead of growing stronger and more effectual, became weak and almost ineffectual. At half-past two, there had been no advancement for an hour. I then applied the forceps without ether, and easily delivered an eight and three quarters-pound child without injury to the mother. The nurse compressed the abdomen after the delivery of the head until the child was fully expelled. When I had cared for the child and cleansed my hands, I took the nurse's position and held the uterus in hand several minutes, until I felt contraction; then I steadied the cord, but did not draw upon it. I continued the compression with the left hand, and told the woman to bear down. She did so *once*, and *only* once. I noticed that the globular form of the uterus became less distinct. I could still feel it, but I did not think to trace its outline carefully. Still holding my hand on the abdomen, I passed the right index finger into the vagina, and found the placenta had descended.

As I could not reach the border of it, I pierced it and rotated it, when it was quickly expelled. Quite a brisk hæmorrhage followed. I passed two fingers to explore the vagina, seeking the cause of bleeding. I found a large tumor, filling nearly down to the perineum. The uterus had inverted. I at once passed the whole hand into the vagina, grasping the fundus, and compressing it evenly over all sides, and still supporting the abdomen with my left hand, I gently carried the organ to its place. It took some two or three minutes to accomplish it. Ergot was administered, and the hand retained in the cavity, and ice applied externally until a firm contraction was secured.

Now, as I introduced my hand, this was what I observed. A pear-shaped body, that filled my whole hand, was projecting into the vagina. I carried my fingers up, to learn that the inversion was not complete. I could detect on either side, the thick, rough walls of the uterus as compared with the thin, smooth, yielding walls of the vagina. There appeared to be about one and a half to two inches of the uterus, about the length of the natural neck, not yet inverted. Holding my fingers well pressed up, to prevent further descent, with my thumb and little finger, which I was obliged to quite fully extend, I searched for the os. I could just distinguish it. It seemed like a mere thickened band at the vault of the vagina, perfectly flabby and inert. I fretted it, but it would not contract.

I then proceeded to carry the fundus to place by compressing, and pushing upward at the same time, replacing in an inverse order from the descent. The last to go up was the fundus; and this, be it remembered, was not flaccid, paralyzed, as some assert, but went up with a *snap*, and immediately grasped the fingers. The firmest contraction was at the fingers' tips. I could distinguish the compression as far down as the knuckles. I now felt for the os again. I felt it more plainly. It was distended, and evinced no disposition to contract. The uterus, for several minutes after the re-position, was of the shape of an inverted tunnel. The fundus was firmly contracted, the upper segment partially so, while the lower segment, cervix, and os, were inert.

I cannot tell the exact time required to arouse contractions of the os; I think more than fifteen minutes. At the expiration of a half-hour, the cervix had not assumed the elongated form that it afterwards showed. The lady made a very rapid and gratifying recovery. She did not have one unpleasant symptom, not so much as gaseous distention, so common after normal labors, and to-day she experiences no uterine weakness or ill-feeling as a consequence of the accouchement.

I have described thus minutely, every condition and procedure attending *this* labor, to show that inversion of the uterus *may* occur without there being present, a *rapid delivery*, *short funis*, *traction* of the *funis*, *irregular compression* of the *fundus*, or *undue bearing-down efforts* of the *patient*— factors which most obstetric authors enumerate and emphasize as causes of the accident. So much of experience — now what does it teach us?

We have no statistics from which to make comparisons to determine the relative frequency of this accident. I think, however, that it is not so rare as it has heretofore been supposed. The ratio, 1 to 190,800, as observed in the Rotunda Hospital, which we find quoted in nearly every work on obstetrics, does not, in

[1] Read before the Obstetrical Section of the Suffolk District Medical Society, February 17, 1886.

No.	Period of Gestation.	Primip. or Multip.	Attendant.	Kind of Labor.	How Delivered.	Condition of Placenta.	Placenta how Delivered.	Time intervision occurred after delivery	When Diagnosed.	When Reduced.	Death or Recov'y.	Condition of Os.	Condition of Fundus.	Method of Treatment.	Presentation.	By whom Reported.	Journal.
1	Term.	P.	Midwife.	.....	.....	Adherent.	.....	.....	2 hours.	Not at all.	D.	.....	.....	.....	....	Dr. Dewees.	Dewees' Obstetrics.
2	"	"	"	.....	.....	Non-adher.	Spontaneous.	Immediately.	3 days.	"	R.	Contracted.	.....	.....	....	"	"
3	"	..	Dewees.	.....	.....	Adherent.	By moderate traction.	"	At once.	At once.	R.	.....	Detached in vagina.	.....	....	"	"
4	"	P.	....	Natural.	.....	Non-adher.	Traction and comp. abdom.	"	3 hours.	"	R.	....	.....	.....	....	"	"
5	4 mos.	..	No attendant.	.....	.....	.....	.....	10th day.	Soon after.	"	R.	Dilated.	.....	.....	....	Dr. Skae.	[Jour., 1846. Northern Medical
6	Term.	M.	Dr. Fisher.	Slight transient pains.	Natural.	Adherent.	Spontaneous.	Immediately.	At once.	"	R.	"	.....	Placenta detached outside.	....	Dr. Fisher.	Am. Jour. Med. Sciences, 1846.
7	"	M.	Dr. Burrows.	.....	.....	"	Comp. and slight tr'ction	"	"	Not reduced.	D.	.....	Flaccid.	.....	....	Dr. Burrows.	Providence Med. and Surg. Jour., '47.
8	....	..	"	.....	.....	"	No traction or force used.	"	"	At once.	R.	Dilated.	"	Returned with placenta lacerated inside.	Breech.	"	"
9	....	M.	Physician.	.....	.....	Non-adher.	Expell'd in 1-2 hour, spont.	1 hour.	2 hours.	"	R.	.....	.....	.....	....	Dr. F. R. Mitchell.	Dublin Med. Press, 1846.
10	....	M.	....	.....	.....	Adherent.	.....	Immediately.	3 hours.	"	D.	.....	.....	Separated outside.	....	Dr. T. M. Madden.	Pamphlet, 1870.
11	....	..	Dr. Atkinson.	4 hours.	Natural.	Non-adher.	Slight comp.	30 to 60 mins.	4 days.	"	R.	.....	.....	.....	....	Dr. B. Atkinson.	Boston Jour., 1846.
12	....	M.	Dr. Reiche.	Pains feeble.	.....	Adherent.	Short funis, slight tr'ction	Immediately.	Immediately.	"	R.	Dilated.	Flaccid at placental site.	.....	Breech.	Dr. Reiche.	....
13	....	P.	Dr. O. J. Hutchins.	Easy.	.....	Non-adher.	Slight tr'n.	"	"	Not at all.	D.	.....	.....	.....	....	Dr. O. J. Hutchins.	Medical Record, '82.
14	....	,	Midwife.	Natural	.....	.....	.....	7 days.	At that time.	12 days.	R.	.....	.....	.....	....	Dr. John Prinkard.	"
15	....	P.	Physician.	.....	.....	Non-adher.	Some tr'ction	At delivery.	3 days.	13th day.	R.	Contracted.	.....	.....	....	Dr. J. Braithwaite.	Obs. Jour. Gt. Brit. and Ireland, 1878.
16	....	"	Midwife.	.....	.....	.....	.....	Prob'y at del.	Soon after.	At once.	R.	Dilated.	.....	.....	....	"	"
17	2 mos.	..	Physician.	.....	.....	Adherent.	Spontaneous.	After 5th day.	"	"	R.	.....	.....	Det'd outside.	....	Dr. J. R. West.	Richmond, Indiana.
18	....	P.	Dr. J. Bryne.	Long and tedious.	Forceps.	Non-adher.	"	Immediately.	Immediately.	11th day.	R.	.....	.....	.....	....	Dr. Bryne.	Brooklyn, N. Y.
19	....	M.	Dr. E. W. Sawyer.	Large amt. of liq. amnii.	Forceps.	"	Compression of abdomen.	30 to 60 mins.	At once.	Not reduced.	D.	Dilated.	Tonic Contraction.	.....	....	Dr. E. W. Sawyer.	Rush Med. Col.
20	....	M.	Midwife.	.....	.....	Adherent.	Strong tre'n	Soon after.	In short time.	At once.	D.	.....	.....	Det'd outside.	....	Dr. E. Smith.	London Lancet, '57.
21	6 mos.	..	No attendant.	.....	.....	"	No force.	.....	7 hours.	"	R.	.....	.....	"	....	Dr. Stephenson.	Brit. Med. Jour. '80.
22	4 mos.	M.	Dr. Robertson.	.....	.....	.....	Spontaneous.	17 days.	At once.	"	R.	.....	.....	.....	....	....	....
23	....	..	Midwife.	.....	.....	Adherent.	"	Soon after.	In short time.	"	R.	.....	.....	Det'd outside.	....	Dr. Beeham.	London Lancet, '55.
24	....	..	"	.....	.....	.....	.....	.....	Several hours after delivery	"	D.	.....	.....	.....	....	Dr. Edder.	" " '70.
25	Term.	P.	Dr. A. P. Weeks.	12 hours, not hard.	Forceps.	Non-adher.	Slight comp. and moderate tension.	Immediately.	Immediately.	"	R.	Dilated.	Firm.	.....	....	Dr. A. P. Weeks.	....

my opinion, represent its frequency in general practice.

A careful analysis of these cases shows: that inversion of the uterus happens about equally to those who have, and to those who have not borne children before; that the strong are victims to it, as well as the anæmic and weak; that it complicates rapid deliveries, and comes in as an addendum to long, tedious, and instrumental labors; that it appears, at one time, in a uterus that has been greatly distended with amniotic fluid, at another time, in a uterus only two to four months pregnant; that it occurs alike in the hands of careful, experienced physicians, and the ignorant midwife; that traction of the funis and compression of abdomen in the deliveries of the placenta, figure but lightly as determining causes (they were employed in only ten of these twenty-five cases, and but lightly in one-half of the ten); that it matters not whether the placenta be adherent or non-adherent, for of these cases, eleven were adherent, and nine non-adherent.

We find that of these twenty-five cases, seventeen occurred immediately after, or within one hour, after the birth of the child; but in only nine of these seventeen cases was the inversion discovered at once. The intervals during which it remained unrecognized varied from two hours to three days. Of the nine cases that were diagnosticated at once, only five were reduced immediately. One each remained four, ten, eleven, twelve, and fifteen days, unreduced, the others, a time ranging from one to seven hours.

The conditions of the uterus that favor inversion are shown correctly only in those cases where it was handled in the act, the five cases that were successfully reduced at once, and one case in which reduction was unsuccessfully attempted. We find that in these six cases, the os was dilated in every instance, and that the fundus was firm in four cases, flabby in one, and its condition not noted in the sixth, showing that inversion is the result of irregular and independent uterine contractions, or, to use the language of Sir J. Y. Simpson, "the fundus and os are in opposite conditions, the former is in a state of contraction, and the latter in a state of atonic relaxation." And this is further corroborated by the four miscarriages, in which the inversion could have been dependent on no other cause than uterine contraction.

The mortality is great. The death-rate of these cases amounts to twenty-eight per cent. of the whole number. The greater portion die of shock, few of hæmorrhage, and very few of subsequent inflammation.

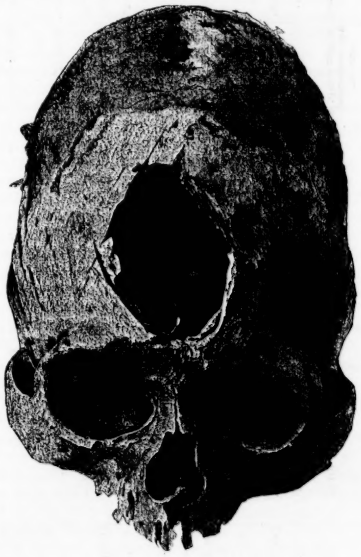
Treatment. When we recall the fact that by far the greater portion of these cases occurred in the hands of physicians practically unacquainted with the accident, and that nearly all assert that they acted from first impulse, it is interesting to note the uniformity of treatment. In all the cases, save two in which the placenta remained attached to the extruding fundus, the placenta was first removed, and afterward, reduction effected. It appears that the danger from hæmorrhage occasioned by the forcible separation of the placenta from the inverted fundus is not great; in fact, if the placenta be not ruptured, the hæmorrhage is but trifling. The result of the cases confirms the treatment, for of eight thus treated, only two died; while of two cases in which the placenta and fundus were both returned, one died. These latter two cases, however, are instructive in that they show the possibility of returning the fundus with the placenta, especially if attempted immediately. But when we consider how difficult the extraction of the placenta may be, and the liability of a re-inversion occasioned, by its delivery, the impropriety of such treatment readily appears.

THE CHACLACAYO TREPHINED SKULL.

BY IRVING C. ROSSE, M.D., OF WASHINGTON, D. C.

SOME time since, while I was visiting the National Museum, Prof. Otis T. Mason was kind enough to call the writer's attention to a skull of the elongated Inca type, which is beyond doubt the most remarkable specimen of *post-mortem* trephining that has yet come to light.

The skull, contributed to the Museum by Dr. W. H. Jones, U. S. N., is from Chaclacayo, near Chosica, a mountain in Peru, near Lima, about 4,000 feet high. From the same place, three other skulls of peculiar shape were found.



The section or button of bone, which writers on prehistoric trephining call a *roundel*, was taken from the middle of this frontal bone, leaving an irregular, polygonal opening about two inches and a half in length by two inches in width. The outline of the cutting shows eight distinct furrows, which indicate that the work must have been done in a bungling manner with some primitive implement.

In addition to the usual deformity from bandaging, the specimen under consideration is bent to the left in the occipital region, and the nasal spine is warped, as shown in the illustration. Owing to this deformity and the large frontal opening, the Professor stated that the specimen admitted of no delicate measurements, neither could the capacity be obtained. He requested that the writer undertake the measurement,

which was accordingly done, after fitting and gluing a piece of pine wood into the opening, so as to take the place of the missing portion of the frontal. Additional security being obtained by strips of adhesive plaster, the skull was ready to have its capacity tested, either by shot — after the precaution of enclosing it in a leather cap — or by water. The details of these operations have been described by the writer in Wood's "Handbook," under the rubrics, "*Cephalometry, Craniometry.*"

MEASUREMENTS OF THE CHACLACAYO SKULL.

Weight	gm.	460
Capacity	c.c.	1330
Length	mm.	162
Breadth, inter-parietal	mm.	131
Breadth, inter-temporal	mm.	132
Breadth of frontal	mm.	84
Height	mm.	149
Index of breadth, inter-parietal		809
Index of breadth, inter-temporal		815
Index of height		920
Index of foramen magnum		54
Frontal arch	mm.	272
Parietal arch	mm.	327
Occipital arch	mm.	245
Longitudinal arch	mm.	361
Circumference	mm.	467
Length of frontal	mm.	118
Length of parietal	mm.	115
Length of occipital	mm.	165
Zygomatic diameter	mm.	137
Facial angle		77
Orbital index		946
Nasal "		315
Alveolar "		950

On removing a portion of the mummified integument, in order to make the measurement with greater precision, there was found in the anterior part of the sagittal suture, a small opening, which may be congenital, or it may be the result either of a contusion, or of a former operation with a scraping trephine.

REPORT OF PROGRESS IN ORTHOPEDIC SURGERY.

E. H. BRADFORD, M.D., AND H. L. BURRELL, M.D.

CONGENITAL DISLOCATION OF THE HIP JOINT.

LUCKE[1] summarises the natural history of the deformity as follows: The symptoms usually develop, or are discovered slowly, when the child begins to walk. There is no evidence of pre-existing disease. Adduction with rotation inward, common in hip disease, is seen very rarely, the glutæi are frequently atrophied, an atrophy of the limb only develops as a late symptom, and paralysis is never seen. He was unable to agree with Verneuil and his followers who considered the disease as the result of a localized paresis of muscles.

Krönlein regarded the disease as one *sui generis, a vitium primæ formationis.*

Mr. Williams Adams[2] has collected 60 cases, of which 19 were double. In 45 of these the labor at the birth of the child was known, and in half of these 22 cases the labor was said to be prolonged, in seven there was breech presentation. The malformation is not more common in first children than in later children. In one case the child was the eighth child. Hereditary predisposition existed in only one case, in which the father and father's sister were said to have had the same deformity as the children. Nearly all the cases are brought to notice when between two and six years of age. At birth no symptoms are to be found to call the accoucheur's attention either in deformity, malposition, or immobility of the limb. In some of the children walking is a little delayed; if one hip alone is affected the case is frequently treated as hip disease; when both hips are affected it is usually supposed that the characteristic waddling gait will disappear on growth of the child, which never is the case. At about six the diagnosis is easy, and at from ten to twenty the diagnostic symptoms become exaggerated. The pathological specimens show, as far as known, either that the acetabulum is absent or only existing in a rudimentary form. Great alterations are seen in the size, shape and attachments of the capsular ligament. The head of the femur is usually flattened, wasted and irregular. Mr. Adams does not believe that the deformity is due to spasm of the muscles in utero, or is identical in any way with club-foot, or that it is traumatic due to any violence occurring at birth. The condition is not a dislocation at all, but a displacement due to a malformation of the acetabulum.

Margary has attempted to cure this distortion by operative means; opened the joint in a patient fifteen years old, chiselled out an acetabulum and made, with the help of a periosteum a new capsule of the joint. The operation was unsuccessful, resulting in a death from pyæmia, due to an accident in antiseptic precautions. In a second case a resection of the head of the femur, with a permanent extension. This he has repeated seven times, three times in single cases, four times in a double case. The deformity of lordosis and the prominence of the head of the femur were of course corrected by the operation and satisfactory results claimed by the reporter; the amount of possible motion is, however, not mentioned.

The patient is to be kept two months in bed, and six months in an appliance and crutches. The operation should not be performed after puberty for fear of the formation of a stiff joint.[3]

The readers of the JOURNAL will not need to be reminded of the unusually successful case of Dr. Buckminster Brown, reported in the *Boston Medical and Surgical Journal*, June 4, 1885, p. 541, which shows that the conservative treatment promises in children a complete cure, provided treatment is thorough and painstaking.

OPERATIVE INTERFERENCE IN TUBERCULOUS DISEASE OF THE KNEE IN CHILDREN.

Müller[4] reviews the operation of "Arthrectomie" as a substitute for excision in children. The method has been in vogue at the Göttingen Clinic since 1881. Differing from that described by Volkmann in but a few details. Instead of the cross incision and dividing the patella favored by Volkmann, König at the Göttingen Clinic, prefers either two straight side incisions, or a straight median incision. By either of these methods the synovial cavities and sacs can be opened so as to be everywhere visible to the eye and within the reach of the requisite instruments, namely, the chisel, forceps, and scissors. Although it is not necessary to use the Esmarch band, yet it is a help.

The operation is without especial danger. Out of 22 operations none died directly from the operation; one died from chloroform, one from iodoform, two

[1] Centralblatt f. Chir., No. 48, 1885.
[2] British Medical Journal, November 7, 1885.
[3] Archiv. di Orthopedia, 1884, No. 5 and 6. Centralblatt f. Chir., No. 42, 1885.
[4] Centralblatt f. Chir., Dec. 12, 1885, No. 50.

died eight months and one and a half years after the operation, of general tuberculosis, the operative interference as far as the knee is considered having been successful.

Of the other 19, 15 healed by first intention without the sequela of a fistula, and in ten of these only three to six weeks were necessary for the healing; in others, however, a fistula remained after the first operation, and a second or third minor surgical interference (curetting) was necessary before recovery took place. Some of the cases were of pure synovial tuberculosis (8 out of 23) more were primarily osteal. Of those purely synovial all but one healed without a sinus, and in this case an extensive abscess was present. No shortening followed the operation, in six a stiff knee remained, there being an osteal disease present in all of these; in two active motion to a considerable extent remained, but in the majority of cases a certain amount of passive motion was present.

These facts conforming with those presented by Volkmann, would show that when possible, the procedure of dissecting out the sac and chiselling out such bony foci as may be present, is to be preferred in children to formal excision.

LATERAL CURVATURE.

Schenk [5] has examined a number of school children with reference to the frequency of scoliosis. He considers the attitude in writing, ordinarily assumed by children, as a sufficient exciting cause for lateral curvature, a deformity which he considers as under certain circumstances the result of weight falling unequally upon the spine.

Out of 200 school children examined a single lateral curve concavity to the left was found in 160; in 34 the usual sigmoid curve. Kyphosis, he considers due to the attitude often assumed by children, leaning upon both elbows. Leaning upon the right elbow favors a long lateral curve, but if combined with a twist of trunk the common sigmoid curve follows.

The ordinary school seats are faulty, as they do not allow the child to lean back comfortably. Lateral curvature is easily prevented, but cured with difficulty.

COMPRESSIVE MYELITIS OF POTT'S DISEASE SUCCESSFULLY TREATED BY LARGE DOSES OF POTASSIUM IODIDE.

V. P. Gibney [6] records a number of cases of paralysis from Pott's disease, treated by the use of fixation apparatus and large doses of iodide of potassium. He considers that the drug is a useful adjunct in the treatment and thinks that we should begin with ten grains of potassium iodide in mineral water, three times daily after the meals. The dose should be increased daily by five grains, until the stomach shows signs of intolerance, and one should maintain as large a dose as the stomach will tolerate until the convalescence is fairly established. He believes that immobilization of the spine is of primary importance and does not allow his patients to stand until convalescence is fully established.

He prognosticates recovery in these cases under the foregoing régime, in three or four months.

OSTEOCLASIS.

Medini [7] prefers the use of the osteoclast to either osteotomy or manual rectification. The osteoclast he uses is the well-known one of Rizzoli. He finds that much greater force can be used by an osteoclast than is possible by the hands. After experimenting with a dynamometer he found that a force of from 300 to 500 pounds could be readily employed. In one case, that of an adult twenty-two years old, with a badly united fracture of the femur, with the formation of a firm callus, and nine cm. shortening, an osteoclast was used, 700 pounds pressure being required before fracture took place. After treatment with extension, plaster-of-Paris, etc., was employed, with the entire correction of the deformity and a diminution of the shortening to one cm.

A specimen of a case operated on one year before by osteoclasis dying from a subsequent accident, is recorded, with everything normal in the soft tissues. The only evidence of fracture which could be determined in the tibia was a cross line of hard bone on the tibia.

FORCIBLE CORRECTION OF KNOCK-KNEE.

Paoli [8] has been performing some experiments on the cadavera of children to determine the effect of forcible manual correction on the bones of the knee-joint in knock knee.

In an infant of one year, after forcible hyperadduction, the lesion was a separation of the epiphysis with more or less fracture of the diaphysis and but slight injury, of the external lateral ligament and the periosteum.

In a cadaver of a child of ten an extensive splintering of the bone took place, with stretching and tearing of the external lateral ligament.

He found that this could be obviated by first fracturing the limb by hyperextension, correcting the deformity by adduction afterwards. Experiments on bodies from one to seventeen years of age proved that only a clean separation of the epiphysis without stretching or rupture of the ligaments followed this procedure. The steps of the operation are as follows: The patient should be put on its face, a sand pillow placed under the thigh so that three fingers' breadth of the femur above the knee projects over the edge of the table on which the child is placed. The thigh is fixed by grasping it with the left hand, or with the help of an assistant, the right hand seizes the leg at the lower third and a slow hyperextension is employed until a slight crack follows and an abnormal mobility felt; the patient is then placed on its side and careful adduction performed; external wooden splints and bandages are applied and worn for twenty days. The writer has operated on 30 children under nine years of age, and on one of nine years, always with success; in older children osteotomy is to be performed.

FORCIBLE FRACTURE FOR THE CURE OF BOWED LEGS.

Mr. L. M. Ormsby [9] advocates the breaking manually of bow legs, and states that he has operated in this manner "hundreds of times" and has never met with a single complication. If the pressure of his hands and arms are not sufficient, he uses the knee, but states that in breaking the leg in this manner, one cannot so accurately determine the point of fracture.

ASTRAGALOID OSTEOTOMY IN THE TREATMENT OF FLAT-FOOT.

Wm. Stokes [10] contributes a valuable paper on this

[5] Centralblatt f. Chirurgie, No. 48, 1886.
[6] New York Medical Record, Oct. 24, 1885, p. 453.
[7] Centralblatt f. Chir., No. 2, 1886, p. 28.
[8] Centralblatt f. Chirurgie, No. 2, 1886, p. 27.
[9] Dublin Journal, Medical Society, June, 1885, p. 483.
[10] Annals of Surgery, October, 1885, p. 279.

subject and arrives at the following conclusions: That the theory of ligamentous relaxation being the chief factor in the production of flat-foot is erroneous, being in the majority of cases the result and not the cause of that deformity. That elongation of the calcaneo-scaphoid ligament should not be mistaken, as it so often is, for relaxation of it. That the altered direction of the sustentaculum tali is a change that could not be directly or indirectly connected with either ligamentous relaxation or muscular paralysis.

That the treatment of pes planus in all cases, at all events, where the deformity is irreducible should be directed mainly to restoring the arch of the foot by operative interference with the misshapen astragalus. That this is feasible without destruction of the mediotarsal joint. That the evidence in favor of muscular paralysis being an ætiological factor in the production of flat-foot is insufficient and unsatisfactory. That deformity of the scaphoid, the result of disease, may be looked upon as a cause of flat-foot. That after astragaloid osteotomy it is desirable to keep the foot, during the healing of the wound, in a state of supination, which can be conveniently effected by the application of a Dupuytren's splint, as used in fractured fibula.

CLUB-FOOT.

Wolff [11] reports success in the treatment of club-foot, by forcible manual correction, preceded or not by tenotomy of the tendo-achillis and followed by immediate fixation in silicate of potash bandages reinforced during the time necessary for the hardening of the silicate by plaster bandages. The plaster is removed and the silicate bandage worn continuously for several months, no other appliance being necessary. Several operations may be required in severe cases.

In the cases of the ages of twenty, eleven, five, reported correction was speedily effected in three weeks time.

Wolff claims that the successful results after resection of the astragalus are not due strictly to the removal of the bone. An examination of the bones of a pronounced case of talipes equino varus will show that the astragalus is not the only bone which is misshapen, but that all the bones, with the exception of the metatarsal and phalangeal bones are altered in their shape. For an equal reason Phelph's direct incision is to be rejected as unnecessary and unsurgical, as well as a wedge-shaped resection or osteotomy.

Wolff claims that equally good and more rapid cures can be effected by bloodless "redressment" of the foot, this being possible not only in the deformed feet of children but also of adults.

OSTEOTOMY WITH CHAIN-SAW FOR TALIPES EQUINO-VARUS OR VALGUS.

Horatio P. Symonds [12] has performed this operation in the following manner: by passing a chain saw around the tarsus, in front of the astragalus. He regards the tarsus as a triangle, and passes a metal-handled tenotomy knife through the sole of the foot in front of the os calcis, commencing from the inner side; he then lets the chain follow the knife through the sole, and repeats the proceeding from the outside to the dorsum of the foot; then he completes the skin incision on the inner side of the foot and allows the chain to cut its way out from without inwards. The skin incision is sewn up; no drainage is necessary. The foot is fixed to a Volkmann's splint for a fortnight, and then, after manipulation into a good position, it is fixed in plaster-of-Paris for three months.

Dr. A. Sidney Roberts, in two excellent lectures on Club foot, regards congenital equino-varus as probably due to "the absence or retardation of rotation," as has been claimed by Dr. Berg of New York. A number of useful appliances are described and figured, for which the readers will have to refer to the original article in the *Philadelphia Medical News*, March 13, 20, 1886.

PLASTIC OPERATIONS IN THE TREATMENT OF SPINA BIFIDA.

Mr. A. W. Mayo Robson [13] reports four cases treated in this manner, and calls attention to the following points: the closing of the meninges by bringing two serous surfaces together as in peritoneal surgery, and superimposing separate skin flaps, the meningeal and skin sutures not being opposite; the absolute necessity of antiseptics; the success attending the plastic operation in cases which are absolutely not amenable to any other form of treatment; for example, when the coverings are thin or the opening into the spinal canal is large. He suggests the following as a practical classification of cases in reference to treatment: —

(1) Where no operation can or should be done.
(2) Where no operation need be done.
(3) Where an operation should be done.

a. When the sac only communicates with the spinal canal by means of a small opening; here it is a simple matter to dissect off the skin, expose the neck of the sac and ligature by means of one circular ligature.

b. Where the coverings are excessively thin quite to the margin of the tumor, the operation is more difficult and uncertain and a sufficient covering can only be obtained by sliding the contiguous parts, and the tension necessarily present is a hindrance to healing.

c. Where the spinal cord or the nerves are blended with the sac; Mr. Robson advises excision of portions of the redundant meninges between the nerves, replacing the nervous structures in the spinal canal and bringing over the skin cover, keeping up free drainage between the membranes and integuments; or, if this could not be done, the membranes might be punctured, the collapsed sac with the nervous structures intact be placed in the canal, and the skin cover made as before.

EXCISION OF THE TARSAL BONES.

Charles T. Poore [14] after describing in detail his method of excising the os calcis, reports nine cases of caries of this portion of the tarsus in children, with final results. In seven, the os calcis was alone removed. In two, the os calcis and astragalus. A useful foot was obtained in eight cases, but in the ninth amputation was subsequently performed on account of failure to remove the disease by less radical measures. In but one case was there any return of the disease in the other tarsal bones, and in this patient not until five years after the operation. Six of the patients had been seen or heard from during the year preceding the operation. In one case eleven years had elapsed since the operation. In all but one the foot is in a good condition and the patient able to walk without any inconvenience except a slight limp. The

[11] Langenbechs. Archiv., 33d Bd. 1st Keft.
[12] Lancet, January 2, 1886, p. 15.
[13] Clinical Soc. Trans., 1885, p. 210.
[14] Annals of Surgery, March, 1886, p. 206.

plantar arch is obliterated in all of the cases, and there is a tendency to walk on the inner border of the foot. There is no pain. Partial excision or erasion of the diseased os calcis has not been found successful by Dr. Poore. No permanent cures have been obtained, and it was only after total extirpation of the diseased bone, that the sinuses healed. His experience has led him to the conclusion that in children at least a partial operation is unsatisfactory.

COCAINE IN BONE SURGERY.

M. J. Roberts[15] has employed the Corning method of local anæsthesia by subcutaneous injection of cocaine in three operations, with success. The first, a case of caries of the elbow joint; the second,[16] a supracondyloid osteotomy for genu valgum, and the third an excision of the hip joint. In the first two, the method proved entirely satisfactory; in the last, some pain was felt, but this was ascribed to an inferior quality of the drug used.

EXCISION OF THE HIP JOINT.

Yale[17] has carefully considered this subject, collecting and comparing the various statistics that have appeared in the periodical literature of the last six or seven years. He states that resections are usually done on the following grounds: First, that it directly saves life; second, that it shortens treatment, and, by so doing, lessens risks both vital and functional; third, that it gives better functional results.

Regarding the "saving of life," he thinks that incision "*in extremis* has been aptly compared to tracheotomy in a like condition; every success he esteems a clear gain. The mortality of suppurative coxitis he thinks would not exceed thirty per cent.; this estimate is rather a personal opinion, for the ratio of mortality given by the various reporters of cases give such discordant figures that it would be impossible to mass the tables and deduce a ratio from them.

The death-rate from incision, done while the changes in the joint are slight and the capsule is unopened, is very small. Antiseptics have almost abolished the risks from wound complications, and the mortality "is reduced very nearly to that from the uninterrupted disease when the operation has failed to arrest it." Dr. Yale says that in weighing the chances in any given case, we need no longer put much stress on the dangers of the operation itself, except perhaps, the one element of shock, which the prolonged extirpation of diseased and suspected tissues, sometimes favors.

He therefore advises excision whenever the disease, in its natural course, assumes an aspect threatening to life, provided none of the less radical operations — drainage, gouging, etc.— can remove the danger. That tubercular infection of the patients is not materially affected by antiseptics, seems to be proven by König's large experience, one hundred and seventeen cases of general resections.

That resection shortens the period of treatment, and that it diminishes the risks, both vital and functional, is true alone of those cases that heal promptly and soundly. Many cases, from twenty to fifty per cent., according to different observers, heal promptly; but the union subsequently breaks down, and the old process is re-established under circumstances in no way improved.

[15] New York Medical Record, 1885, No. 28, p. 431.
[16] New York Medical Journal, October 24, 1885.
[17] Annals of Surgery, January 1886, p. 8.

He considers that it is far from proven that resections give better average results than a "natural" cure. The shortening of the limb is not so different in the two methods of treatment, and one should not forget that functional results as to position and motion can only be obtained after prolonged after-treatment.

His conclusion is, "that exsection of the hip is indicated as a life-saving operation only; and that, as it has not been shown that it can save from any danger, except those consequent upon prolonged suppuration, it is, with rare exceptions, only indicated when the suppurative process has evidently reached a dangerous point, and cannot be interrupted by any less serious operation.

EXCISION OF A USELESS JOINT TO PRODUCE LONG ANKYLOSIS IN INFANTILE PARALYSIS.

Ap. M. Vance has excised the knee-joint in two patients, and the ankle-joint in one, and states that he has secured a useful, but stiff joint.

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Reports of Societies.

SUFFOLK DISTRICT MEDICAL SOCIETY. SECTION OF OBSTETRICS AND GYNÆCOLOGY.

ROBERT B. DIXON, M.D., SECRETARY.

FEBRUARY 17, 1886. The meeting was called to order at 8 o'clock, DR. JAMES R. CHADWICK in the chair.

DR. W. H. Baker read a paper entitled

THE TREATMENT OF CANCER OF THE UTERUS.[1]

DR. BAKER, having finished his paper, said that Dr. Post, of New York, considered a period of eighteen months as a sufficiently long time in which to decide whether the operation for the removal of a cancer of the uterus had resulted in a cure. Dr. Baker thought that three to four years was soon enough. Dr. Carl Powlik, of Vienna, has reported one hundred and thirty-six cases of high amputation occurring in seventeen years. Fourteen of the patients, about ten per cent., were living four years after the operation. By vaginal total extirpation the percentage of deaths from

[1] See page 409 of the Journal.

the operation has been reduced from seventy-five to twenty-seven per cent., but there was no increase in the respite of the disease, however.

Vaginal extirpation should be done in cases of cancer of the body of the uterus or those of the body and cervix combined. By the operation of total extirpation the death rate is four times greater than by the high operation. He has had one case of total extirpation in which the disease showed itself again in five months.

Best Reported Results by High Amputation.	*Results obtained by the Author's Method.*
7 3-10ths per cent. deaths from the operation.	No death from the operation.
14 cases which were well four years or more after the operation: collected by Dr. Powlik, being	6 cases were well four years or more after the operation, being
10 3-10ths per cent. of those surviving the operation.	60 per cent. of those upon whom the operation had been performed.

DR. F. H. DAVENPORT remarked that he had little to say except to emphasize certain points made by Dr. Baker. To get such success as he had done, two factors were necessary, one the early recognition of the disease, the other the closely following up the patient after the operation. To gain the first the very earliest complaint on the part of the patient should be attended to, and the attendant physician, who in the majority of cases sees the patient before the specialist, should be exceedingly careful not to neglect the first sign of the beginning trouble. Any suspicious ulceration should be watched most sedulously. Bearing in mind the highly probable etiological bearing of laceration of the cervix on malignant disease, the operation for the repair of such laceration should be urged. In this way more cases would probably come to operation that could be radically cured.

As regards watching the patient after the operation, this cannot be too strongly insisted upon. The rule in these cases is to see the patient at first every month after the operation, increasing the interval to two and three months as the patient continues well. In the majority of the cases operated upon, some slight secondary operations were necessary. Such operations usually consisted of thorough curetting and use of the cautery.

The question of the relative value of total extirpation and high amputation only applies to cases involving the cervical canal. Where the body is primarily affected, extirpation is the only course open. Where the growth starts from the vaginal surface, usually growing outwards in the form of a cauliflower excrescence, amputation is undoubtedly indicated. The doubtful cases lie between. If the discase has invaded the broad ligaments neither operation can be radical. Where it has not got beyond the structure of the uterus, Dr. Davenport thought the high amputation preferable, because the diseased tissue could with care be as thoroughly removed, and there was less risk to the woman, both at the time of operation and subsequently, from hæmorrhage, shock, and from septicæmia.

The dangers attending the high amputation are slight. Opening the peritoneum, as was done in more than one of Dr. Baker's cases was followed by no bad results, possibly due to the subsequent treatment, by cauterizing and packing with ferrated cotton.

Secondary hæmorrhage, severe enough to be alarming, is rare, and is usually controlled by alum douches, or repacking with styptic cotton.

DR. MORRIS said it was over nine years since he operated upon the patient referred to by Dr. Baker. She was forty-three years old, and had never been pregnant. She was quite fleshy and would probably weigh between one hundred and sixty and one hundred and seventy pounds or more. He saw her three days ago. She is much thinner, though still plump. She now compains of continuous pain, which is worse at night, a profuse, serous vaginal discharge, and occasional hæmorrhage. She, however, still attends to her household duties. Three years and four months ago he operated upon a second case. The woman was a multipara. About five months previous to operation she began to suffer from metrorrhagia, and flowed most of the time, and always after intercourse. There was no laceration of the cervix, and the disease was not extensive. Dr. Chadwick kindly gave him his assistance and advice in this case. The woman got well in three weeks, and assured him to-day, when he saw her, that she had remained perfectly well.

DR. E. W. CUSHING spoke of the choice of the high operation and total extirpation. Dr. Martin, of Berlin, told Dr. Cushing that he had watched one hundred cases of the high operation, and found that the disease returned in them all. He now does only total extirpation. His plan is to cut out a piece and have it examined under the microscope, and if cancer is present he removes the whole uterus. Dr. Cushing said that he had seen the operation done by Martin six times. There was very little blood lost, and the shock was not severe. There was no fever, and all recovered. The statistics as to recurrence in Martin's cases were very much better by this method. In Vienna they do not remove the whole of the uterus, but made a high amputation, much as Dr. Baker has described, and before operating they place a piece of the diseased tissue under the microscope. If necessary, by using a freezing microtoma, a microscopic diagnosis may be made in a few minutes just before operating, while the patient is under the influence of the anæsthetic. It is best to get a microscopical examination early, examining thus all suspicious indurations of the os, and then operate early, removing the whole organ as the best safeguard against recurrence of the cancer.

DR. J. W. ELLIOT thought that Dr. Baker deserved great credit for his preseverance with these cases when so many of the profession gave them up as hopeless. At a recent meeting of the Berlin Obstetrical Society, Dr. Martin stated that there had been a return of the disease in all his cases of high amputation; other members, however, had been more fortunate, and Schroeder referring to the recent pathological investigations on the subject by Ruge and Viet, said that certain forms of cancer of the cervix were a disease of the vaginal mucous membrane, and always extended down into the vaginal wall, but never to the body of the uterus; for such cases he preferred the high amputation; for cancer of the cervical canal or of the body, he would do the total extirpation. Dr. Elliot said that it seemed to him an absurdity to say that the removal of part of an organ gave *greater* immunity than the removal of the whole. What surgeon would say that the cancer of the breast returned less often after partial amputation, than after the removal of the whole gland? Such conclusions shake our faith in statistics. In regard to the operation of high amputation; as one can never be certain how far the disease cells have extended, it follows that as much of the uterus should be removed as is consistent with a comparatively safe operation. All

the best surgeons would agree on this point, and so far as he had observed, most of them did practically the same operation.

DR. BAKER, in closing the discussion, said that it would seem that the removal of the entire uterus would give better results than the removal of a portion, but it is not so. He did not agree that the methods of high amputation are the same the world over. By drawing down the cervix and removing by the wire, it is difficult to tell when all of the disease is removed. If one uses cauterization, he loses the sense of touch. Another method of high amputation is to remove all that can be cut away with the scissors and knife. Where the wound is closed the disease is sewed in and it will return quickly. The most essential part of the operation is to destroy deep into the tissue with the cautery after cutting out the diseased part. It is important to follow up the case, and if the disease shows itself again, use the curette or knife and cautery.

DR. A. P. WEEKS read a paper, entitled

ACUTE INVERSION OF THE UTERUS.

DR. MCDONALD said that he had seen but one case of inversion of the uterus, and that was in consultation with another physician. When he saw the patient she was in good condition; there had been no hæmorrhage and the placenta was unexpelled. The uterus was not at all flabby, and he succeeded in returning it. The patient made a good recovery.

DR. CHADWICK stated that Dr. Weeks's report throws valuable light upon a mooted question, whether in effecting reduction we should seek to push up the successive segments of the uterus from the cervix toward the fundus, or to induct the fundus and gradually replace the successive zones from that inductation toward the cervix. His experience speaks strongly in favor of the former method of procedure, which accords with my theoretical ideas. The evidence is, to my mind, conclusive that inversion may occur, as in Dr. Weeks's case, from deficient or erratic contractions of the uterus uninfluenced by the accoucheur. An appreciation of the fact that the contractions of the uterus are but a modified form of peristalsis, perfectly analogous to those of the intestines and bladder, will suggest that such cases of spontaneous inversion of the uterus are effected in a manner similar to that of intussusception of the intestines in which no mechanical force from without can be supposed to have acted. On the other hand, it is a wonder to me that inversion is not more often produced by the attempt of the obstetrician to provoke contractions of the flaccid uterus or to expell the placenta by manipulating the fundus through the abdominal walls, now so universally recommended and practised.

It would be interesting to know how many of the women who have had inversion of the uterus were delivered upon the back, where the effect of gravity would tend to favor the inversion.

One point in the common practice I would venture to criticize, namely, the removal of the placenta before reduction of the inverted organ. The possibility of restoring the organ depends upon a relaxation of the contraction and a consequent liability to hæmorrhage from the uterine sinuses during the process of reduction. I would consequently prefer to have them still closed by the adherent placenta until after reduction was effected, despite the fact that subsequent manual extraction of the placenta might be called for and proved more difficult than before reduction.

I have seen but one case of recent inversion of the uterus, to which I was summoned at four o'clock one morning about three years ago. A practitioner of this city, of considerable obstetric experience, roused me from my slumbers to aid him in the reduction of an acute inversion under the following circumstances as related by him. He had delivered a woman at four o'clock on the previous afternoon without instruments, and the placenta had soon after been expelled spontaneously. He had left her comfortable and free from hæmorrhage. At twelve P. M., he was summoned to her bedside because of flooding and found a large tumor protruding from her vulva, which he correctly diagnosticated to be the inverted uterus. This he vainly attempted to reduce, but finally, by wrapping cloths about it, he checked the hæmorrhage and came for me. We did not reach the house until nearly five A. M., when the woman was found to be dead. An immense tumor — the inverted uterus and vagina — lay between her thighs reaching almost to her knees.

DR. WEEKS, in closing the discussion, said that his paper had not been prepared with the intention of discussing the various methods and procedures of treating inversion. Many writers attribute the trouble to traction or pressure, but some take it in a broader sense and consider that a flabby fundus is an active factor. He does not believe that traction on the cord alone would do it. Neither does he think that the fundus is the last part to come down, but he considers that it is the first to descend. In his own case the traction was very slight and the placenta came away easily. In replacing this organ the fundus went up last.

DR. ELLIOT exhibited two ovarias, cysts which he had removed at the Free Hospital for Women on the previous Monday. One about the size of a fist, was in a state of beginning necrosis on account of a twisted pedicle. Its peritoneal surface had lost its luster and was of a dirty yellowish brown color. The vessels in the pedicle were plugged with coagula. The other tumor was a multilocular cystoma, about the size of a child's head and of a kidney shape. There was a papillomatous growth on its peritoneal surface, and inside some of the cysts. The diagnosis had been difficult, as the tumor was very tense, and one of the cysts had felt like a hard knot. The whole tumor felt as solid as any fibroid. It was tightly impacted in the pelvis, but the uterus was slightly movable. It was supposed by the operator to be a dermoid. The operation was also very difficult. As the abdomen was opened he came down on a tissue firmer than the peritoneum, which proved to be the bladder, abnormally high and spread out under the abdominal wall. The bladder was finally circumvented, and an encapsuled peritonitis was encountered between the bladder and the cyst. The small tumor was found in the lumbar region rolled up in the omentum and intestines with a pedicle twisted several times and universally adherent with recent peritonitis. There could scarcely be a doubt that the pedicle had been twisted by the peristaltic action of the intestines. Each twist of the pedicle was firmly adherent to the next. Dr. Elliot was uncertain as to whether he had injured the bladder in dissecting around it. So he stitched the ragged and the exposed edge into the abdominal wound. There had been a small amount of blood in the urine on the first day, otherwise the bladder had given no trouble.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. M. BUCKINGHAM, M.D., SECRETARY.

APRIL 26th, 1886.
The President, DR. F. W. DRAPER, in the chair.

CHOREA EXCITED BY SUDDEN RETURN OF HEARING. CHOREA TREATED WITH URETHAN.

DR. ABBOT said that without proposing to report the case, he wished to mention a clinical fact of much interest to him. He had seen in consultation four days previously a young girl, ten or eleven years old, of unusual intelligence, but rather delicate organization, who was suffering from the severest form of chorea, which for a week had resisted all the remedies employed. The attack was regarded by her physician as a reflex one, caused by excitement which she had undergone a few days before the attack began, from operations to remove growths from the nasal passages and for elevating the membrana tympani of both ears by inflation. At the time Dr. Abbot saw her she was lying on a bed, on which she could be kept only by constant watchfulness, her arms and legs being in incessant and violent motion, and the head thrown from side to side spasmodically. She was unable to speak articulately, could swallow only liquids in small quantities, and with great difficulty, and made efforts at short intervals to clear the throat from abundant mucus. There was also some diarrhœa, possibly due to remedies which had been given. The nurse stated that there had not been more than half an hour's continuous sleep during the previous forty-eight hours. The case had a most serious aspect, as it seemed impossible for such unceasing muscular action to go on much longer without fatal exhaustion. Various remedies had been employed, among them large quantities of the different bromides, and arsenic in the form of Fowler's Solution, the dose having been pushed as far as eight minims three times daily, without the slightest relief. On the contrary, the symptoms were continually growing worse. The need of sleep was such that Dr. Abbot advised the use of urethan in doses of ten grains or more every two hours until relief. Up to the date of this report the result has been most satisfactory. The father of the patient writes, "The urethan has had a wonderful effect." "The child had dozed almost continually, waking up at intervals to cough up the mucus in her throat, and turning over on her left side and going to sleep. On Friday and Saturday nights (the remedy was first given on Friday evening) she was uneasy about midnight, when we gave her a dose of twenty grains which quieted her *at once;* each time she slept an hour and a half. Her movements have diminished greatly and she sleeps naturally. She eats better and chews with closed mouth."

Dr. Abbot said he did not pretend to report the case in full, as the patient was under the care of another physician, and it was not yet completed. He felt justified in mentioning it, however, as the remedy employed was new and its value as yet was somewhat uncertain. So far as he had employed it, he had been rather disappointed with the results. Given to adults as a remedy for insomnia he had found the first impression of a fifteen or twenty grain dose a favorable one, but its subsequent use was apt to disappoint the patient. Possibly we have not yet arrived at the largest desirable doses. He had used it with children in the dose of ten grains at night, with a very happy effect.

DR. WEBBER said that he had used urethan a number of times with the same experience as Dr. Abbot had had. It has succeeded once and then failed. In one case it succeeded twice, and failed at the third trial.

DR. MINOT agreed with Dr. Abbot that in order to obtain the sedative and hypnotic effects of urethan it should be given in larger doses than were perhaps usually prescribed. At the same time he would mention a case of maniacal excitement supervening upon chronic renal disease, which he saw under the care of Dr. Fox, of Lowell, in which large doses of morphia and chloral failed to induce sleep, but a very few grains of urethan had the happiest effect. He was in the habit of ordering fifteen grains, to be repeated every hour, for sleeplessness, and he thought the dose might be still further increased.

DR. J. J. PUTNAM said that in violent cases of chorea, large doses of chloral have a similar effect. It is important to use some hypnotic other than bromide.

DR. C. J. BLAKE said that Dr. Abbot's patient, a bright little girl of evidently neurotic tendencies, was first brought to him on account of marked deafness of both ears, of several months' duration. On examination, the membrana tympani and middle ears were found to present the appearances indicating long continued closure of the Eustachian tubes, and which were so well described by Dr. Hooper in his recent paper on adenoid vegetations. There was also sufficient evidence that the presence of such vegetations and the concomitant condition of the naso-pharynx and Eustachian tubes was the primary and principal cause of the condition of the ears. The child was next seen a few days after the successful removal of the growths by Dr. Hooper; there was no appearance of nervous irritability, no evidence of chorea, and the hearing was but slightly better than at the time of the first visit. A single inflation of the middle ears by means of the Poletzer air douche, which was used very gently in deference to previous experience in similar cases, resulted in an immediate and very marked improvement in the hearing. It was evident from the readiness and ease with which the air entered the middle ears that the same improvement might have been effected spontaneously at any moment by a fit of coughing or sneezing, the result being a restoration of the mobility of the sound transmitting structures of the middle ear and a consequent influx of sound to and excitation of the sensory centres sufficient to account for the awakening of the choreaic symptoms in a subject so predisposed.

REFLEX AURAL SYMPTOMS WITHOUT AURAL DISEASE. AURAL DISEASE WITH REFLEX SYMPTOMS.

DRS. C. J. BLAKE and T. M. ROTCH presented a paper (reserved for publication) explaining the anatomical and physiological connection between the sympathetic ganglia and filaments, and the sensori-motor nerves, by which the so-called reflex phenomena existing under certain circumstances between the ear and other organs were elucidated.

As examples of the principles laid down in the paper, the following cases occurring in the writer's practice, and a few others were reported:

1. Reflex laryngeal symptoms from aural disease.

2. Reflex aural symptoms from laryngeal disease.
3. Reflex pulmonary symptoms from aural disease.
4. Reflex aural symptoms from pulmonary disease.
5. Reflex aural symptoms from irritation of teeth and gums.
6. Reflex facial symptoms from aural disease.
7. Aural disease caused reflexly from facial irritation.
8. Reflex aural disease occurring in the course of acute exanthemata.
9. Reflex congestion of the membrana tympani without aural symptoms, occurring during the facial eruption of measles.
10. A case of measles causing by reflex action aural disease, and the aural disease producing reflex laryngeal and pulmonary symptoms.

Dr. J. O. Green thought that little could be added to the thoroughness of the paper. He mentioned some cases of injection of the middle ear and others of pain in the ear due to disturbance in the teeth, all of which could, he thought, be accounted for by the explanation given in the paper. Some gentlemen present might remember a paper read before this society by Dr. Langmaid, but never published, on "Epithelial Disease of the Larynx," of which pain in the ear was the most prominent symptom.

Dr. Lyman said that it was interesting to hear one of the series of reflexes so carefully elucidated. We knew that there were reflex ear symptoms from dentition, but he had never worked out the mechanism.

Dr. Webber thought the paper very interesting. He thought that the series of ear reflexes might be extended, and mentioned gastric disturbance as a cause of pain in the ear.

Dr. J. L. Morse, present by invitation, mentioned the case of a patient in whom severe vomiting was caused by acute inflammation of the middle ear, which vomiting was repeatedly relieved by treatment directed to the ear.

Dr. J. B. Ayer had seen severe symptoms referable both to the ear and the brain, excited by the growths of the teeth below the gum.

Dr. C. J. Blake reported a case of reflex neuralgia of the tympanic plexus due to carious teeth, the patient being a young woman in good general health, who had suffered for several days from severe pain in the right ear; the hearing was good, and examination showed the external and middle ears to be normal and without congestion or other evidence of local irritation. The pain was evidently of reflex origin, and on examination of the mouth, the patient was sent to Dr. Henry A. Baker, who reported that in addition to several small cavities in the molars and a general sensitiveness of the teeth, the first and second superior right bicuspids were especially affected. In each of these teeth there was a large gutta percha filling, and the discoloration of the first bicuspid showed that the pulp was devitalized. On removing the gutta percha, the pulp canal was found to be filled with cotton, the odor of which was anything but pleasant. The second bicuspid was extremely sensitive to thermal changes, and the removal of its filling revealed a deep cavity extending beyond the pulp chamber without any opening into the pulp canal. The diagnosis of partial ossification of the pulp was confirmed on examination of the teeth, which were subsequently extracted with relief from the otalgia.

SARCOMA OF BRAIN.

Dr. J. J. Putnam showed the brain of a woman of thirty-eight, who had had occasional headaches for thirteen months, severe ones for a year. There had been some dizziness, neuritis, reduced vision, and latterly wandering and confinement to bed. Gradually paralysis and heart failure appeared. She had been sinking slowly for three weeks. Her speech had been slow but with no mistake in words. Autopsy showed a tumor growing from the dura mater into the frontal lobe. It had been examined microscopically by Dr. Whitney and found to be sarcoma.

AMERICAN SURGICAL ASSOCIATION.

The Seventh Annual Session of the American Surgical Association was held in the reading-room of the Army Medical Museum, April 28, 29, 30 and May 1, 1886.

Wednesday. — Morning Session.

The meeting was called to order at 11 A. M., by the President, Moses Gunn, M.D., Chicago.

After the calling of the roll, the President delivered his annual address, an abstract of which follows: —

Fellows of the American Surgical Association: Custom, if not organic law, requires the President to open the proceeding by a more or less formal address. My immediate predecessor, in his address one year since, suggested that either a *résumé* of the progress of surgery for the previous year, or some especial scientific subject should constitute the subject matter of the President's address. I propose to comply with the spirit of this suggestion, and shall indulge in a few thoughts on certain points in the physiology and surgery of motor, sensory and motor-sensory, or compound nerves.

Previous to the investigations of Magendi and Bell, no clearly-defined effort had been made to differentiate the motor and sensory nerves. It remained for these investigators to clearly establish the fact of the motor qualities of the anterior roots, and the sensory qualities of the posterior roots. With this also came the idea that this difference was intrinsic, due to peculiarities in the anatomical and physiological organization of the nerve fibres. This appears to have been the idea generally entertained. Is this a fact? or is the difference to be found in extrinsic conditions, viz., the anatomical organization at either end of the nerve, the nerve-trunk being simply a conductor of a form of force; upon the facts of the case depends the possibility of satisfactory results in the section and physiological reunion of divided compound nerves, and the grafting of one compound nerve upon another, where there has been so great a loss of the trunk of the nerve as not to permit the approximation of the distal and proximal portions of that nerve. Success in achieving satisfactory results by such operations or a uniform lack of success must afford a tolerably reliable answer to these interrogatories, much more reliable than experiments on some of the inferior animals. Experiments on animals require severe scrutiny, or they may mislead. Some of the experiments on animals were then referred to. Philipeau and Vulpian divided in dogs the pneumogastric and sublingual nerves and united the central end of the pneumogastric with the distal

end of the sublingual. They also divided the lingual branch of the fifth nerve and the sublingual, uniting the central end of the lingual branch of the fifth nerve to the peripheral end of the sublingual and tearing out the central end of the sublingual. The result of these experiments was that after a time motion and sensation were restored. Other similar experiments were cited.

In April, 1886, Dr. E. P. Davis, made for the speaker the following experimental operation. Under an anæsthetic the axillary plexus was exposed. The median was severed after its bifurcation, and also the ulnar and radial. The outer head of the median was united to the ulnar. The inner head of the median was united to the radial in the same way. At the end of ten days, the dressing was removed, and complete paralysis of motion and of sensation found. In four weeks this began to disappear, and later a perfect condition of motion and sensation was observed. By this operation the distal portion of the median was left entirely without nervous supply, and yet there was no paralysis of muscles, or integument supplied by this portion of the nerve. Later investigation showed that in the dog and certain other animals there is an anastomosis of fibres between different nerves, forming an indirect route for the conduction of nervous force.

Nerve suture in man has become a recognized operation both as a secondary and primary procedure. It must be concluded from experiments that motor, sensory and trophic powers depend not on the nerve itself, nor on a difference of nerve force, but on the organism at the end of the nerve. Professor Stephani is reported to have succeeded four times in uniting the distal end of the median with the proximal end of the musculo-spiral and the distal end of the latter with the proximal end of the former. Immediately following the operation was complete paralysis and atrophy, but in the course of six or eight months there was not only restoration of muscular power, but harmony of action to an extent sufficient to permit the animal to run, but perfect extending power was not realized.

The intergrafting of a section of a nerve of an inferior animal to replace extensive loss of nerve structure will probably be of too uncertain success to constitute a standard operation, but can the grafting of the distal end of a nerve in such a case upon the side of, or into the trunk of an adjacent nerve secure to it a supply of nerve force? Experiments made by Kawa would indicate that such might be the case. To establish this point, experiments on dogs are valueless on account of the free anastomosis. We must look for the solution of this question to the rare opportunities met with in the course of surgical practice to institute experimental operations on man. A case has been reported by Desprès, where there was such extensive destruction of the median nerve as to preclude the possibility of approximating its ends. He therefore engrafted the distal end of the median with the trunk of the ulnar. Fifty-four days after the operation, the functions of the parts supplied with the median nerve were partially restored.

December 1st, the speaker had occasion to resect over three inches of the right ulnar nerve in the removal of a neuroma, in a male patient, aged thirty-six years. The distal portion of the divided nerve was grafted to the trunk of the mediæ. The sheath of the median was removed, and the broadly chamfered end of the ulnar laid in contact with it, and secured by three fine cat-gut sutures. Immediately after the operation there was complete paralysis of the parts supplied by the ulnar. On the eighteenth day there was a slight return of sensation along the ulnar side of the ring finger, and there seemed to be some contraction of the flexor carpi ulnaris. Four months after operation, the patient could feel a slight touch on the ulnar side of the ring finger, no sensation to touch in the little finger, but an increased warmth in it. He can abduct the hand with considerable vigor, but as yet has no power over the terminal phalanges.

The positive evidence which these two cases furnish at so early a date, warrants further effort in this direction, and corroborates the other evidence of the correctness of the postulate, that the function of a given nerve depends entirely upon the machinery at its ends, and not upon any intrinsic quality.

The Association then went into executive session.

Letters from distinguished Honorary Fellows were read.

A proposition to form a congress of American physicians and surgeons was discussed, and referred to a committee of three, to report Thursday morning, the committee consisting of Drs. J. Ewing Mears, Wm. T. Briggs and Christopher Johnston.

AFTERNOON SESSION.

Dr. Christopher Johnston, of Baltimore, read a paper entitled,

DIAGNOSTITIAL LAPAROTOMY.

This operation is as ancient as our race, but in early times was always practised on the cadaver. The lex regia of Numa Pompilius required it to be performed upon any woman who died in the twenty-seventh week of pregnancy, unless reliable signs showed that the fœtus was dead. The first operation on the living subject was probably performed about the year 1600. The rapid advance of abdominal surgery now demands the attentive consideration of surgeons and requires the expression of opinion as to the position of the line limiting interference in certain classes of cases. The labors of gynæcologists and surgeons have greatly lowered the mortality of laparotomy for ovariotomy and hysterectomy, but the pathological possibilities of the male and female abdomen still constitute many difficult problems which the knowledge and zeal of surgeons are constantly striving to solve. The question arises, how shall the seat of the pathological change be reached? The answer is by laparotomy, which makes the diagnosis positive in cases of doubt, and is preliminary to other operations which may be required. If the surgeon has no right to refuse to give air to a fellow creature becoming asphyxiated from obstruction in the air passage, has he the option of refraining from surgical interference when the primæ viæ are obstructed in their functions? The answer to this question hangs first upon the diagnosis, sometimes upon the record of the past, and not infrequently upon the wise boldness of the surgeon. The propositions then are, first, that for abdominal surgical affections all possible operations ought to be attempted after the establishment of a precise diagnosis, and second, that when a just diagnosis cannot otherwise be reached, it may and ought to be eked out by an exploratory incision. The mortality of abdominal incision without complication is low. It is unfair to compare dissimilar

operations involving the peritoneum, for some have been so frequently performed that new methods and resources have been applied to them. A great consecutive mortality following a surgical procedure in no wise determines the want of value of the operation, while most cases recovering are to be considered a certain gain.

The record with regard to diagnostitial laparotomy is very brief, for as a rule, when the surgeon approaches the case, the diagnosis is already nearly positive. The gravity of the operation is largely determined by the time at which it is performed. The abdominal incision intentionally diagnostitial is fraught with so little comparative ill consequence that its high value or necessity may be fairly claimed as an established and proper aid to diagnosis. Of all operations involving laparotomy, those involving the uterus and its appendages probably fill the largest space. Next we have those involving the alimentary tract.

Speaking of the Cæsarean section, the speaker said that comparing the mortality of this operation in former days with the mortality of the Porro-Müller operation we find that while shock and other dangers are greatly increased in the modern operation, the mortality remains about the same. The old operation is, as a rule, done under objectionable surroundings by inexpert operators, while the modern operation is done by experts with the best surroundings. We have yet to see what the old operation will accomplish when the same safe-guards are thrown around it as are given to the newer operation.

Besides being a justifiable operation, abdominal incision becomes the bounden duty of the surgeon in a great variety of instances. Fenestral exploration gains in facility and loses in danger by frequent repetition, and it might eventually render the explorative laparotomy unnecessary.

When is explorative laparotomy called for? It should be stated, that to a certain extent every laparotomy is diagnostitial. Without establishing unnecessary groups, two great classes in which exploratory laparotomy is demanded or permissible are to be recognized. First, all sorts of cases in which the diagnosis cannot be made without its aid; second, all those cases in which a diagnosis having been made, no definite line of operation can be mapped out and no abandonment of active measures be entertained or justified. As in these cases laparotomy holds the key; in all cases of doubt both as to what is the matter and what is to be done, it should be called upon to surrender that key. In intestinal cases, the early operations are those which save life the oftenest, but abandonment ought not necessarily to follow delay in invoking the surgeon's aid.

DISCUSSION.

DR. A. VANDERVEER, of Albany, thought that there could be no doubt that experience showed that simple incised wounds of the abdomen without injury to the abdominal organs will usually heal without difficulty, even if left to themselves. The mortality is very slight indeed. Even when the injury is more serious, recovery often follows. The cases which give anxiety are those in which the bowel is injured and its contents escape into the abdominal cavity. These die inevitably, if nothing is done. In these cases laparotomy should be performed. This view is often opposed by the friends of the patient and often by the attending physician. We have much to do in the direction of teaching the profession and the public the importance of early operation in these cases. Cases were cited of gunshot injuries of the intestine and of rupture of the intestine produced by external violence in which the operation might have saved life if it had been permitted by the friends of the patient. The operation, as a rule, will not be permitted until the patient is in collapse and it is then too late. If possible, the operation should be done in such cases in which it will prove successful, so that the surgeon may have an argument in favor of his recommendation, and the masses must be educated to the necessity of laparotomy in the cases referred to.

Dr. Johnston presents points of great interest and importance. This operation should be done more frequently in the future than in the past. As regards the mode of operation the incision in the median line is by far the best. In some cases it would be impossible to reach the seat of disease by any other incision. In the closing of the wound some recommend several lines of sutures uniting the different layers of tissue separately. He considered this no advance on the old method of using sutures including all the layers of tissue. Where there is great distension of the bowel in intussusception, the discovery of the seat of trouble is greatly facilitated by a procedure which he had seen Tait adopt in such a case. He opened the distended coil of intestine, permitted the gas to escape, and then closed the opening with sutures.

DR. J. EWING, of Philadelphia, in considering diagnostitial laparotomy, would arrange the subject in this manner: In the first place, the use of external manipulation; second, internal examination, where this is possible; third, aspiration; and finally, laparotomy. He regarded laparotomy as much the most serious of all these methods. In this discussion, the subject of laparotomy as a means of treatment does not call for consideration. The greater his experience, the greater was his conviction that the abdominal cavity should not be opened without due consideration. Death is a severe penalty to pay for the perfection of the diagnosis. A great deal had already been learned in regard to methods of diagnosis by external manipulation. The tendency, at the present time, seems to be in favor of opening the abdominal cavity, rather than cultivating that essential skill by which the diagnosis may often be made without resorting to operation. Tait's assertions that opening of the abdominal cavity is a matter of very little consequence, has led many of the younger members of the profession to perform this operation without due consideration. He had at present under observation, a case in which he had made out the existence of an obscure abdominal tumor, and had determined that the patient was suffering possibly from carcinoma. He had not felt it his duty to perfect the diagnosis by opening the abdomen. He had carefully watched for symptoms indicating suppuration, on the occurrence of which he would operate, not for diagnosis, but to give relief. Having exhausted other methods of diagnosis, he agreed with Dr. Johnston, that if the patient's life depended upon it, we should open the abdomen. In intestinal obstruction, he thought that the abdomen should be opened, and that many lives have been lost by want of courage on the part of the surgeon. There is no question as to the duty of the surgeon in the case of gun-shot wounds of the intestines.

DR. CHARLES T. PARKES, of Chicago, thought that

the paper insists upon the necessity of exhausting all other methods of diagnosis before resorting to laparotomy. In regard to the size of the incision, that makes very little difference, so far as the final recovery is concerned, but where the incision extends above the umbilicus, recovery is slower, and attended with more inconvenience. In the cases which he had seen, where post-mortem examination followed, there was no evidence that the abdominal incision had anything to do with the fatal issue. In regard to the operation in cases of intestinal obstruction, where the exhaustion is extreme, several years ago he was called to see a case of nine days' standing. The patient was in a state of extreme collapse. He was anæsthetized, and the abdomen opened. A small cyst was felt immediately beneath the fingers. Under the slight pressure, it ruptured, and a quantity of offensive pus escaped into the abdominal cavity. This patient recovered. In such a case, the best diagnostic skill could not determine the cause of the obstruction. In the case of a child eighteen months of age, in which the operation was declined, intussusception of the small intestine was found at the *post-mortem*, which was without adhesions, and could readily have been removed.

He thought the abdominal opening should be made in the median line. He had seen cases in which death had probably followed from the fact that the incision was not thus made, the surgeon being satisfied with enlarging the original wound. In regard to the closure of the wound, the simple suture going through all the tissues has been followed by such good results that we need use no other. Where there is such distension of the intestine, the method by opening the bowel is the best. He had used the exploratory needle on several occasions, but it is necessary to make a number of punctures. In two instances, he had found extravasation of fæcal matter through these punctures.

DR. MCLANE TIFFANY, of Baltimore, during the last year, had met four cases of what he believed to be intestinal obstruction. In all four, laparotomy was proposed. Two refused the operation, and both of these died. Two accepted, and one of these recovered. The fatal case was that of a woman aged seventy-three, in whom the obstruction had lasted seven days. The intestine was enormously distended, and in the examination, ruptured with the escape of the gas. After this, it was extremely easy to find the seat of obstruction. The shock will be lessened if the intestine is emptied. In regard to the time at which the operation should be performed, he thought that no positive rule could be laid down, and that it must depend upon the acumen of the physician who sees the case. He agreed with the speaker as to the great value of laparotomy as a diagnostic operation. It is not possible for any human being to recognize through the abdominal walls, the manifold conditions of the organs present. It frequently happens in regard to pistol-wounds of the abdomen, that the intestines escape injury, and in these cases, it is a question when the operation should be done. The opening of the abdomen will, however, not do much harm. It is also very desirable that there should be in hospitals, special rooms devoted exclusively to this class of operations.

DR. J. F. THOMPSON, of Washington, wished to record two cases of laparotomy for the purpose of diagnosis. A woman, aged thirty-five years, had the history of an abdominal tumor lasting for several years. It presented the appearances of an ordinary ovarian tumor, with the exception that it had two sinuses communicating externally. After frequent examinations by various surgeons, it was decided to make an exploratory operation. One of the sinuses was traced back to the peritoneum without reaching any satisfactory explanation of the tumor. The peritoneum was then opened and the finger introduced, but no tumor in the cavity could be felt. Towards the abdominal wall, a mass apparently imbedded in the tissues could be distinguished. The wound was closed, and the patient recovered from the operation. The patient subsequently died, and the *post-mortem* showed that the tumor was an enlarged spleen, which had fallen down below the umbilicus and become attached to the abdominal wall.

The second case was one of apparently freely-movable tumor in the right hypochondriac region. It was accompanied with excruciating pain. Operation was not recommended, but the woman and her husband insisted that something should be done, and therefore, after keeping her under observation for some time, the abdomen was opened. The tumor, probably carcinomatous, was found to involve the transverse colon, which ran directly through the mass. There was also an attachment of the growth to the liver. The abdomen was closed, the patient recovered from the operation, and is still living.

DR. W. H. CARMALT, of New Haven, said that some time ago he had been requested to operate in a case of intestinal obstruction, but the collapse was so great, that I did not consider it proper to do so. Within thirty-six hours, the patient died. The *post-mortem* showed that the obstruction was due to a band of adhesion. If the operation had been performed early, the patient might have recovered.

DR. CHRISTOPHER JOHNSTON, in closing the discussion, said: There is a certain amount of hesitancy on the part of surgeons in regard to operating in cases of abdominal injury, on account of the people and on account of juries. To overcome these objections, it is necessary to educate the public to the true state of affairs. In those cases where the bowel is opened, laparotomy leads us to the seat of the disease, and if anything can be done, we are then able to do it. I am happy to find my opinions supported by so many of the able minds of the profession.

Adjourned.

(To be continued.)

Recent Literature.

The Methods of Bacteriological Investigation. By DR. FERDINAND HUEPPE, Docent in Hygiene and Bacteriology in the Chemical Laboratory of R. Fresenius at Wiesbaden. Translated by Hermann M. Biggs, M.D., Instructor in the Carnegie Laboratory, and Assistant to the Chair of Pathological Anatomy in Bellevue Hospital Medical College. Illustrated by 31 wood-cuts. New York: D. Appleton & Co. 1886. 8vo. pp. 218.

Hueppe's book is undoubtedly the best that has yet been published upon the technique of bacteriological investigation, and when we first saw the original a year ago the hope that an early and good translation might be presented to English readers immediately occurred to us. In no other book that we have seen are the methods to be employed given in as concise and

clear a manner as in this manual, and nowhere else are the reasons for the adoption of the various processes so well explained. Before this translation was received, however, we had before us the *third* edition of the original work enlarged by just one-third, and we regret that this new matter is not included in the American reprint, because it is of great importance. The translator's work is well done, but we think the plates in the original should have been reproduced as well as the wood-cuts.

Practical Clinical Lessons on Syphilis and the Genito-Urinary Diseases. By FESSENDEN N. OTIS, M.D., Clinical Professor of Genito-Urinary Diseases in the College of Physicians and Surgeons, New York; Surgeon to Charity Hospital, etc. New York: Printed for the Author. 1886.

This is not a second edition, but is issued because the former edition is exhausted. The book was originally published as one of a series which was sold by subscription, and a limited number of this single volume were issued at a comparatively high price. The stereotype plates of the work having come into the author's hands he has caused a "student's edition" to be printed, that it may be within the reach of all who desire it, at a price simply covering the cost of publication. It is not necessary to be perfectly in accord with all of Dr. Otis's views to rejoice that his book is rendered more easily accessible. A genuine second edition is promised later.

On the Suprapubic Operation of Opening the Bladder for the Stone and for Tumors. By SIR HENRY THOMPSON, F.R.C.S., Surgeon Extraordinary to his Majesty the King of the Belgians; Consulting Surgeon to University College Hospital, etc. London: J. & A. Churchill. 1886. pp. 57.

This little book gives Sir Henry's experience of the high operation, done according to the method of Petersen, or with the inflation of the rectum. It contains the history of eight operations (six for stone and two for tumors), of which seven were successful. The cases were all of exceptional severity, and the fatal case was a man of seventy, who was at the first in a condition of extreme distress, very weak, and never regained strength, and died apparently from exhaustion one week after the operation. Sir Henry throws his influence strongly in favor of the supra pubic operation in proper cases.

— Mr. Savory, the President of the Royal College of Surgeons of England, has, since the ceremony of the laying of the foundation stone of the new Examination Hall, been tendered a knighthood; which honor he has respectfully declined.

— A German practitioner being called to see a child of five weeks old who was continually crying and suffering from colic, and whose skin was of a dull bluish tint, was somewhat puzzled as to a diagnosis, until looking at the nurse's face, and seeing it of a brilliant white and red tint, he touched the surface, which left a greasy stain on his finger of a cosmetic rich in lead. This poisonous substance the nurse had long been in the habit of using for the purpose of improving her complexion. The cause of the child's colic being removed, and the appropriate treatment adopted, a cure was effected in a few days.

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A NATIONAL MEDICAL CONGRESS.

IT has long been evident that, however useful or however capable of being made useful the American Medical Association might show itself as a territorially representative body of American Medical men, it did not, and from the nature of its organization could not, satisfy the demands of a large and increasing number of our foremost physicians and surgeons, who are earnest workers in the *science* of medicine and who care little or nothing for its *politics*. This feeling was the inspiration which started the various National Associations in different departments of medicine, all of which are enjoying an active and fruitful scientific life. Their activity and fruitfulness is lost to the Sections of the American Medical Association. The late unseemly squabble over the International Congress has emphasized this feeling of dissatisfaction, and crystallized the half-formed desire that there might be some organization representing sound medical learning and advanced practical skill, and disassociated from such standards as square miles of territory or even units of population.

The basis for such an organization readily presents itself in the special associations already existing; the National Capital naturally suggests itself as a common and appropriate ground for an annual and simultaneous meeting. It is only necessary that these bodies should agree to meet in this way to perfect the scheme.

The report of a committee of the American Surgical Association, presented at its late meeting in Washington, puts into a definite shape proposals which have formed the subject of previous thought and talk among many leading men. The following is an outline of the main points of the report:

In view of the fact that there are a number of special medical organizations now in existence in the United States, each having for its aim the advancement of the special department of medicine for which it was organized; and since the members of the said special societies are the representatives of the profession in America, many of whom are at the same time members of several of these special societies, attend-

ance of the meetings requiring separate trips from home, often with much loss of time; therefore it appears necessary that some arrangement should be made with the different societies as to a uniform place and time of meeting.

The plan proposed is to unite the following named associations into a congress, to be called a Congress of American Physicians and Surgeons: the American Surgical Association, the American Ophthalmological Association, American Otological Association, American Neurological Association, American Laryngological Association, American Gynæcological Association, American Dermatological Association, American Climatological Association, and the American Clinical and Pathological Association.

The plan of organization embodies the following: Each Society is to elect its own officers; hold its own sessions apart from the others at the time and place of meeting; publish its own transactions, and do all other acts which, by virtue of its constitution and by-laws, it has the inherent right to do, thus preserving its own autonomy.

The Congress is to be composed of these special societies when in convention, and its meetings to be held in the city of Washington; the constitution and by-laws of the Congress to be formed by a committee of like number from each special society; the opening session of each annual meeting of the Congress to be devoted to such general business as may pertain to the interests of the Association as a whole, the Congress being presided over by a president elected annually, and who must deliver an opening address on the first day of the session. The President to be chosen by a nominating committee of one from each special society; the Presidents of the special societies to be ex-officio Vice-Presidents of the Congress; membership in the Congress to be acquired only by virtue of fellowship in one or another of the special organizations; the other officers to be elected as determined upon by the convention in session.

Any intention was disclaimed of offering an obstacle or opposition to any other organization in America; the proposal offering simply a plan of uniting into one great body, the already existing special societies, from an honest conviction that such a union will prove of inestimable benefit to them, individually and collectively.

The Committee appointed to consider this proposition reported that they viewed with great satisfaction the perfection of a plan through which the meeting of the above-named societies at the same time in Washington may be accomplished, and recommended the adoption of a resolution that a committee of five be appointed to confer with committees from other special organizations to arrange details, and to report at the next annual meeting of the Association.

At present the above Associations meet at various seasons of the year from May to October, and at various places. The first step, and probably the most difficult one, toward the realization of the proposal of the Surgical Association, must be to induce the other Associations to meet in Washington; for if meeting there be agreed to, the weather on the one hand, and professional engagements of teachers in medical schools on the other, offer obstacles somewhat irreconcilable to settling upon a common and convenient time.

TRAINING SCHOOLS FOR NURSING THE INSANE.

THE problem has long been agitating the minds of alienists as to how to secure a better grade of attendants upon the insane inmates of hospitals. Some ten years ago Dr. Clouston, in a paper read before the British Medico-Psychological Association, gave emphatic expression to this need, and pointed out that the ideal nurse was not best to be secured solely from the motive of philanthropy, however much such a motive might conduce to the faithful performance of duties in one who had deliberately selected such a calling as a legitimate and worthy means of livelihood.

Before anything analagous to the general hospital training school could be successfully established it was necessary to demonstrate the feasibility of employing unmarried women (the class from which the ranks of the nursing guild will always be most largely recruited) as attendants upon insane male patients. The experiment had been tried of employing the wives of attendants as "bed-makers," in Northampton and other English hospitals, and Dr. Batty Tuke had found it desirable to employ a lady companion as a social factor in his private asylum for gentlemen. But in these cases a special protection was afforded to the sex. It remained to be seen if women could be placed in charge of insane wards, as they are in general hospitals.

This has been done with continued and increasing success in the wards of the McLean Asylum at Somerville, for the past six or seven years. It has been found that men do better when given such female society, which more nearly approximates their home surroundings; that they exercise a greater self-control, and that the presence of women tends to make the male attendants also more gentle. Half of the male wards at Somerville now have female nurses, with ward-maids to relieve them of some of the housekeeping work, so that more time can be given by them to the direct care of the patients. And we understand that this arrangement is soon to be extended to two other wards.

Coincidently with the demonstrated success of this undertaking, a training school was determined upon, modelled in its essential features upon those in operation in the general hospitals, but it should be said, entirely distinct from the Massachusetts Training School, associated with another branch of the same hospital.

In 1882, this enterprise was organized by the appointment of a superintendent, and practical training and class instruction which had already been tentatively begun were gradually developed. Soon after, lectures by the medical staff were added, including didactic instruction upon the care of the insane. The superintendent speaks very favorably, we notice, in this connection, of the "Handbook for the Instruction of Attendants on the Insane,"[1] recently prepared by a committee of the Medico-Psychological Association as

[1] Handbook for the Instruction of the Insane. Cupples, Upham & Co., Boston.

providing an excellent basis for a course of lectures on "mental diseases, as they should be understood by a nurse."

Such training schools should not endeavor, in any way, to make nurses "who are specialists in insanity," but should, as does this one at the McLean Asylum, undertake nursing in all its branches, with special qualification for the care of cases of nervous and mental disease. Thus its graduates will not be placed at a disadvantage compared with those from the general training schools, but the public who have a great interest in this matter, will be able to secure, when they desire it, persons having an especial facility and knowledge in the management of mental diseases, while it is thought prudent to have such cases treated at home. We learn that it is proposed to extend the system so as to provide for a similar training for male nurses.

The first class, so far as we are aware, ever graduated from such a school, was graduated from the McLean Asylum the first of March last. It consisted of six women who had more than completed their full period of training. Since then, April 20, a training school connected with the Buffalo State Asylum for the Insane, graduated its first class consisting of seven women. The occasion was made one of much interest by a number of addresses, among them one by Dr. Stephen Smith, State Commissioner on Lunacy. To this good work thus auspiciously begun, we extend our hearty good-will.

ETHER AND CHLOROFORM ONCE MORE.

THE following little item from one of the Boston daily papers, contains some interesting information, and some remarks thereon, which require comment.

"Four deaths, resulting from the administration of chloroform for surgical purposes, have occurred at a New York hospital within the past month. The last case was the subject of an inquest by the coroner, who impanelled a jury of surgeons to sit upon it. A verdict was brought in exonerating the physician who gave the chloroform, and stating that no existing method of administering anæsthetics was absolutely free from danger. This is doubtless true enough, but the fact remains that surgeons are too frequently reckless in the use of chloroform. In performing operations of a serious nature, it is usually necessary to employ it, since there is no good substitute. Ether cannot be given in sufficient quantities to produce the total anæsthesia required. But, unfortunately, it often happens that doctors administer chloroform simply because it is more convenient, and take their chances of the result, notwithstanding the fact that no physician can possibly be sure when he gives it, that his patient will ever return to consciousness. There is always a very large chance that death will ensue from paralysis of the heart. The use of ether, on the other hand, is almost perfectly safe, and, except in cases where total anæsthesia is absolutely required, the employment of chloroform should be legally prohibited."

Whether the testimony at the inquest furnished the authority for the statements of the reporter we do not know, but it is a mortification to see such an assertion in a Boston daily, it is so far from the truth. In the hope that our comment will reach the eyes and understanding of some who may have already read the extract, we will repeat what must already seem stale to the majority of JOURNAL readers.

Ether does produce total anæsthesia, and it is never necessary to use any other anæsthetic to obtain it. It is the only anæsthetic used at the Massachusetts General Hospital, the use of chloroform having been forbidden in the institution at least thirty years ago. At the Boston City Hospital, the anæsthetic to be used is left to the discretion of the surgeons. Here, chloroform is occasionally used by a surgeon for some particular reason, such as its non-inflammability, or its supposed advantage in irritating the throat less as it is inhaled, but never because total anæsthesia cannot be procured by ether, and probably not oftener than two or three times a year. With these rare exceptions, ether is the only general anæsthetic used. Probably as many "operations of a serious nature" are performed, and total anæsthesia is as often required in these two hospitals as in any hospitals of the same size, and while patients differ in their susceptibility to ether, as to other therapeutic agents, chloroform is never needed nor desired by the surgeons, because ether is insufficient.

Chloroform has certain advantages in its diminished bulk and non-inflammability, which may make its use a necessity, under certain circumstances, as in the medical department of an army in an active campaign. The story of its non-effectiveness is a fiction, under the cloak of which, certain men persist in their use of chloroform, simply because they have never taken the pains to inform themselves of the proper method of using ether, or because they fear they may be occasionally obliged to bestow a little more time upon a patient if ether is used.

MEDICAL NOTES.

— A Roundout man of small stature gives as a reason for his stunted growth, that he was brought up when a baby on condensed milk. — *Kingston Freeman.*

— A German rushed into a drug store on Penn Avenue yesterday, and exclaimed, "Mien Gott, young man, I eat raw bork, and I dink dere vos dose machinery in it."— *Pittsburgh Chronicle.*

— Hydatid disease has so rapidly increased in Victoria, that the Central Board of Health have issued a circular to all local boards, pointing out the danger of drinking open natural waters to which dogs and other animals have access, unless the water be first well boiled. The number of deaths in Victoria, during 1884, directly from hydatid disease, was 59.

— The editor of the *Deseret* (Mormon) *News* is not in favor of the prevailing method of executing condemned murderers; the hanging he regards as altogether barbarous. In this matter, he thinks, the Bible should be the authority, and the scriptures say that "whoso sheddeth man's blood, by man shall his blood be shed." This command of the Deity is not at present complied with. A "blood atonement" is required which is the only atonement the murderer can make for his crime. This might be accomplished by shooting or decapitation, either of which would be decidedly

preferable to the method at present in vogue, merely upon grounds of humanity.

— M. Chéron, says the Paris Correspondent of the *British Medical Journal*, in a memoir, entitled *De l' Albuminurie dans le Rhumatisme Articulaire Aigu*, demonstrates the frequent occurrence of albuminuria in the course of acute articular rheumatism. He met with it in forty per cent. of such cases. In order to make a qualitative analysis, the urine was made acid by the addition of acetic acid; a certain quantity of a saturated solution of sulphate of sodium, amounting to a sixth part of the urine, was added, and the mixture was then heated. The presence of albumen was at once detected, if any were contained in the urine. M. Chéron considers that albuminuria in acute articular rheumatism is an indication, in most instances, of a transitory renal catarrh, more rarely of nephritis or renal embolus. It may also be deduced that salicylate of soda may be administered in the majority of cases of rheumatism accompanied by albuminuria.

— A comical attempt to bribe the assistant secretary of the treasury at Washington is said to have been made recently by a physician of Tacoma, W. T., who was desirous of obtaining an appointment as reservation doctor to the Puyallup Indian tribe. This person wrote the other day to Secretary Smith, giving a number of references as to his personal character and professional skill, and offering the official addressed $100 "to reimburse him for the trouble" of securing the position for the applicant. The assistant secretary replied that he had previously received letters strongly recommending the doctor for the place in question, upon the strength of which he had interested himself in procuring the appointment. "But," he added, "it is plainly evident that the gentlemen who indorsed you do not understand your true character, for no person fit to hold any office would make the proposition your letter contains. I have written to the commissioner of Indian affairs inclosing a copy of your letter to me and saying that, in my judgment, you are unfit for any appointment."

— A very extraordinary suit at law was brought to a close in New York city recently, in which one Dr. Glessner demanded payment for professional services alleged to have been rendered a certain Mrs. Butler. The plaintiff testified that Mrs. Butler was brought to him for treatment by a Mr. Patrick, with whom she had had improper relations. She was at the time closely veiled, and the plaintiff recognized her, merely by her voice, as a person whom he had met some months before at Mr. Patrick's house. Dr. Glessner subsequently requested Mrs. Butler to pay him for his services, but the lady indignantly refused, on the ground that they had never been rendered to her. The physician then made application to Mrs. Butler's husband, with a full explanation of the circumstances, and when he refused to pay brought suit in the court. The judge promptly dismissed the case, but not without addressing a stinging rebuke to the plaintiff, whose testimony, he said, was uncorroborated by a single witness, or even by a single circumstance. "The fact that he was ever introduced to Mrs. Butler," added the judge, "is, in my opinion, successfully disproved. His only ground for suit is his recollection, at a distance of several months, of the tones of her voice. Upon this frail and uncertain foundation he seeks to recover the amount of his bill, and incidentally to taint the honor of a wife, to destroy the peace of a household, and to throw a fatal blight upon the future of an unborn child. The court finds in most positive terms that he is in error: that he never saw Mrs. Butler, and that he never treated her."

BOSTON.

— The Legislative Committee on the Judiciary reported inexpedient on the order relative to amending the law relating to medical examiners, in Massachusetts.

NEW YORK.

— Dr. Edward Curtis, for fourteen years Professor of Materia Medica and Therapeutics in the College of Physicians and Surgeons, has resigned from the Faculty, and Dr. George L. Peabody has been appointed to the position thus made vacant.

— At a meeting of the Section of Ophthalmology and Otology of the Academy of Medicine held April 19, Professor Henry Morton, Ph. D., President of the Stevens's Institute of Technology, Hoboken, delivered a lecture on "What is Light?"

— The late Francis W. Tracy, of Buffalo, among numerous other charitable bequests, left $20,000 to the Buffalo General Hospital. The late George Pancoast, of New York, left $1,000 each to the New York Skin and Cancer Hospital, and the Manhattan Eye and Ear Hospital.

— Dr. Edward G. Janeway, up to the present time Professor of Pathological Anatomy and Clinical Medicine, as well as Associate Professor of the Principles and Practice of Medicine, in Bellevue Hospital Medical College, has been promoted to the chair left vacant by the death of Dr. Austin Flint; and Dr. Herman W. Biggs, Instructor in the Carnegie Laboratory, has been made Demonstrator of Anatomy, the position held by Dr. Gaspar Griswold at the time of his death. Both these appointments, as well as that of Dr. Peabody, at the College of Physicians and Surgeons, are regarded as most excellent.

— At a meeting of the Medical Society of the County of New York, held April 26, the *Comitia Minora* reported and recommended that the Society approve a bill now before the Legislature, entitled "An Act to Regulate the Licensing and Registration of Physicians and Surgeons, and to Codify the Medical Laws of the State of New York," the design of which is to remove obstacles which, from time to time, have been encountered in attempting to execute the medical laws now upon the Statute-Books. The recommendation was adopted. Dr. Joseph D. Bryant was appointed to read a memoir of the late Dr. Gaspar Griswold.

— Dr. William L. Hardy, physician to the Tombs Prison, died April 24, of cerebro-spinal meningitis, after a three weeks' illness. Dr. Hardy was born in New York, May 18, 1849, and received his education at the City College and Bellevue Hospital Medical College. He was graduated in medicine in 1871, and the same year was appointed to a position as inspector in the Health Department. He was afterward Surgeon to the old Park Hospital, and to the city schoolship Mercury. In 1875, he was placed in charge of the insane asylum on Ward's Island, a position which he retained for five years. He was recently appointed by Mayor Grace, one of the Board of Civil Service Examiners.

PHILADELPHIA.

— Edward T. Reichert, M.D., was elected Professor of Physiology in the University of Pennsylvania, April 29th. Dr. Reichert was graduated at the University in 1879, and during the last term has been temporarily filling the Vacant Chair of Physiology.

— The Trustees of the Jefferson Medical College have appointed William S. Forbes, M.D., Professor of General Descriptive and Surgical Anatomy, to succeed Prof. Wm. H. Pancoast who resigned at the close of the term a few weeks ago. Dr. Forbes commenced his medical studies at the University of Virginia, and afterwards continued them at the Jefferson College, where he received his degree in 1852. He occupied a responsible position during the War, and after returning to Philadelphia he had a private school of anatomy. In 1879, he was elected Demonstrator of Anatomy in the Jefferson Medical College, which he has acceptably filled up to this time. Dr. Forbes is one of the Surgeons to the Episcopal Hospital, and consultant to other institutions.

Correspondence.

LETTER FROM PAU.

Pau as a Winter Resort.[1]

Naturally the physician would send to Pau patients affected by diseases which are rarely met among the natives: bronchitis, early stages of tubercle especially those with tendency to hæmorrhage; catarrhal ailments and irritability of the air-passages; asthma; weak heart: valvular affections; angina pectoris; rheumatism complicated with gout; neurasthenia and concomitant affections. Pau is said to be contraindicated in affections brought on by residence in hot climates where the functions of the liver are sluggish; also in chronic bronchitis with excessive expectoration and great reduction of general tone. In detail I can say from a personal observation of two winters that the effect of the climate upon catarrhal affections is excellent. Cardiac ailments experience great relief, and it has been found that in visitors who remain two or three years, the pulse falls permanently several beats in the minute, for the climate is markedly sedative, acting especially upon the cardiac nerve centres. Above all, I would emphasize the value of the climate in cases of *neurasthenia*. Having had several such cases under my immediate care, as well as the opportunity to observe other individuals similarly affected, I can speak with the greatest confidence of the benefit to be derived in ailments of this nature from a residence in Pau. The climate is calming and soothing to the general nerve centres, and while sedative, does not deprive one of appetite, but the contrary. This sedative action is shown by the striking fact that diseases among the natives run their course with comparative absence of strong arterial action. Another feature of life in Pau is the ability to sleep. Individuals whose habit is wakefulness, sleep quietly for hours in succession, soon after reaching Pau, and yet persons in health are not more inclined to the *dolce far niente* than elsewhere.

The age of the natives of Pau is an indication of the healthfulness of the climate. Sound constitutions are the rule, even to advanced years. Pau is exempt both from epidemic and endemic diseases. In short, there is no predominating ailment. Consumption and scrofula appear in very small proportion to the number of inhabitants. During various epidemics of cholera, Pau remained entirely free in 1832; in 1855, cholera approached the town from three directions, but the number of cases was only fifty. In the recent epidemic, although so close to the Spanish borders, Pau was again exempt from the plague.

The effect of Pau climate upon the health of visitors is indicated by the observation that during one year among 1,000 English, there being one or more weak chest in each family, only two deaths from phthisis occurred and but five deaths from all causes.

The curious fact has been observed that remedies which diminish the force and velocity of the pulse can be borne in Pau only in small and diminishing doses or not at all. This I have found to be true. Another odd peculiarity remarked by a shrewd "Chiel" is that during the winter there is an almost entire absence of coughing in public assemblies, in church, theatre, etc. This is remarkable when one considers that many individuals arrive in Pau with a sensitive condition of the pulmonary apparatus. It should be said, however, that in Pau the sensitive throat and bronchial tubes escape the injurious effect of the impalpable dust, which is so painful in the severe and cutting winds of Nice and the Riviera.

Pau undoubtedly is one of the most comfortable towns abroad. That convenient German word *gemüthlichkeit* best expresses the genial effect upon one of life in this charming place. There are several good hotels — the Gassion, Hotel de France, the Grand and the Beau Séjour. Of these, the Gassion has the best situation, the finest and most comfortable rooms, an elevator, abundance of balconies (both a requisite for invalids) and the visitor is made to feel as nearly at home as is possible in a hotel. Madame Bachov, the proprietress, is equal to any demand, and the table is good. Rates of living in hotels vary from $3 to $5 per day, according to situation. There are fairly good boarding-houses kept by English. Apartments and villas are very plentiful, and servants may be obtained at low rates. A cook at $8 to $12, butler $12 to $16, chambermaid $4 to $6 per month. In Pau there is one arrangement which is not only an assistance but a protection to the stranger. This is a syndicate, which, free of all expense, gives information concerning apartments, villas, hotels and boarding-houses, local usages, servant's wages, etc., and acts as arbiter between strangers and natives. Also aids in engaging villas or rooms; verifies inventories, etc. Apartments (or flats) are leased for nine months or less at rates varying between $200 and $1,000, and are furnished with every requisite save linen and plate, both of which may be hired. Dog carts, phaetons, breaks, etc., are abundant and unusually well horsed. Saddle horses are very plentiful and well-trained. Driving and riding are comparatively inexpensive. In the way of amusements, the military or orchestral concerts out-of-doors every day. Various musical entertainments, receptions *ad nauseam*, and balls; the theatre; a good club; steeple chase, flat and hurdle races on an excellent course; frequent meeting of the hounds fill the days of the pleasure seeker. The government roads are very fine, and drives or walks in whatever direction are delightful, for the variety of scenery, picturesqueness of native life, beauty of villas and grounds, the snow mountains and lovely vallies have given Pau an enviable reputation.

There is an unexceptionable collegiate school for boys

[1] Concluded from page 406.

who may live at the school or attend daily, living at home. Teachers in art, music and languages are abundant and able. There are two English churches, several large circulating libraries, shops are satisfactory. There is a sufficiency of physicians, English and French, and there are two or three reliable English druggists. In the vicinity of Pau are many places of great natural beauty which serve as the object of enjoyable excursions especially *Eaux Bonnes*, *Eaux Chaudes*, *Cauterets*, and *Lourdes*; the attraction of the latter being the famous healing spring over which presides the Virgin Mary (the spring bubbling up in a grotto directly beneath a church), and to which pilgrims come in yearly, thousands from places as distant as San Francisco.

The three first named of these localities are among the charming resorts in the Pyrenees in which visitors who remain for another winter in Pau spend the summer. This is naturally a sensible plan. Hotels are good and the coolness of the mountains and beauty of the scenery are historical. Several of these resorts possess hot and cold medicinal springs of great value in affections of scrofulous nature, in gout and rheumatism. Personally, I am not familiar with them. They have been celebrated since the days of St. Louis.

The invalid should not make the mistake of leaving Pau too early in the spring. During the late days of February and early days of March, there are winds called the "Sirocco" which are enervating. They do not endure, and no invalid should leave Pau before April 1. This being too early for northern towns, Biarritz, on the Bay of Biscay, is a convenient way-station for those to whom sea-air is not an objection. Let it not be forgotten, however, that in a surprisingly large proportion of invalids sea-side climate saps the strength like starvation. The alternative would be a little longer stay in Pau before going North. April is an exquisite month in that neighborhood.

Biarritz became famous through poor, old Louis Napoleon. It is a place of great beauty, has excellent hotels, the Angleterre, Grand, Victoria and Continental, the Angleterre leading the list in comfort and situation. There are satisfactory lodging-houses. The air has all the tonic of the sea, yet is mild and warm as early as March. Baths may be taken in hot sea-water. More suburban than Pau and consequently less enlivened by sources of amusement, Biarritz is favored by lovely surroundings, and there is abundance of horses and vehicles. In summer, of course, the place is wide awake, the Casino is open, concerts frequent, and the bathers are much like those of other sea-side places in France.

Spain is near at hand, and many are tempted to run down to Madrid to visit the remarkable picture gallery, for Velasquez and Murillo, (especially the former), cannot be rightly studied out of Spain. There are six pictures by Velasquez in this gallery well worth crossing an ocean to see. Once at Madrid, the traveller easily decides to visit Granada, Seville, Cordova, Toledo and naturally the Escorial. Biarritz, by the tonic properties of its climate, fitly prepares the invalid for places farther North, but no sensitive constitution should be allowed to encounter the capricious weather of Paris before April 15, and a fortnight later would be far safer.

In closing, I may say that invalids who require a bracing, dry, sparkling, winter climate, will find it moderately in Lugano, more markedly in Meran, still more so in the Engadine. Pau, while called enervating, is only sedative, and the majority of invalids, in my humble judgment, cannot and should not bear prolonged climatic stimulation. The quiet gentleness of a climate which does not depress nor strongly stimulate enables wearied functions gradually to resume a normal power. In Pau the heart works with ease; the nerve centres regain their equilibrium and sensitive lungs and the irritable bronchial mucous membrane become soothed. The stimulus of mountain air is better adapted to summer months and may very properly follow a winter in Pau. Pau has a remarkable climate, but one should not be disappointed if not wholly relieved in *one* winter. The processes of nature like those of the moral being are slow, and in order to be made sure they must have time. There is nothing more detrimental to the bodily condition of an invalid than capricious change of climate from motives of dissatisfaction and disappointment, which are based upon an experience of only a few days or weeks.

It must not be thought that I recommend Pau for every variety of those cases, many of which improve here. Having set forth with some care, the characteristics of the climate and its effects, physicians will readily judge from the peculiarities of their patients as to which of them will be likely to improve here. Once more, however, I will allow myself to repeat that I have never met with a climate which seemed to me so remarkably adapted to the requirements of neurasthenics as that of Pau. Invalids may begin the season as early as November 1.

Delicate individuals often are sent to Arcachon, one hour by rail from Bordeaux. Here a vast belt of pines separate winter dwellings from the sea. There is, however, an inland tidal (salt) lake. The combination of odor of pine trees and salty elements from the sea are beneficial in many cases. There are many gray days at this resort. It is less favored by visitors in winter than it formerly was. The seaside during the colder months is extremely trying to certain invalids, and therefore it should not be forgotten that Pau is only a few hours distant. H. O.

Society Report.

[BY TELEGRAPH.]

SPECIAL REPORT OF THE ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION AT ST. LOUIS.

Exposition buildings commodious, convenient, comfortable. Proceedings orderly. Registration managed better than ever before. Four registering stands, and invitations only delivered next morning. Over twelve hundred registered. Weather pleasant, entertainments enjoyable. Citizens hospitable, ball at Merchants' Exchange a great success. Work in Sections very uneven. A few good papers, discussions poor. Sections of Sanitary Science and Diseases of Children poorly attended; most interest manifested in Surgery and Gynæcology. The new method of election of officers of Sections worked badly. Nearly all those elected obscure men. For first time in history a woman was elected chairman of Section for Childrens' Diseases; next day this action was reconsidered.

First Day. Dr. Brodie introduced by Dr. Atwood; meeting finally opened by prayer; address of welcome by D. R. Francis, Mayor of St. Louis. Dr. Atwood's address. Committee of Arrangements Report. Protests against delegations of Philadelphia County Medical Society; New York Academy of Medicine; Davidson County, Tennessee; Tri-States Medical Society; Mississippi Valley; Tennessee State Medical Society, were received and referred to the Council. Dr. Brodie, in his annual address, spoke of deaths during the past year of ex-Presidents Cox, Bolling, John D. Atlee, Austin Flint. Only four original members living of those who organized the Association in 1846; namely, N. S. Davis, Alfred Stillé, Alonzo Clark, P. D. Bush, of Delaware. Speaker defended the National Code tested by years of experience, recommended new Sections of Medical Jurisprudence and Dermatology, and Syphilis. Success of the Association's Journal commented upon. Condemned endorsement of proprietary preparations by members and asked the attention of the Judicial Council thereto. Vote of thanks and referred for publication.

Dr. J. S. Lynch, of Baltimore, read the report of the committee on the International Congress. Work of preliminary arrangement complete, and now in charge of the Executive Committee of the Congress. Report adopted, no discussion. Vote to reconsider by resolutions laid upon table, making action final. [Applause.] Amendment by Dr. Davis adopted that Sections nominate their own officers. Nominating Committee organized, one from each State.

WEDNESDAY. Vice-President Logan in chair. Committee appointed on the presidential address; Murphy, of Minnesota; Garcelon, of Maine; Gihon, United States Navy. Chairman of the Section on Surgery delivered his address on the Present Status of Abdominal Surgery apart from special field of Gynæcology. Valuable, but too long; sub-subjects: penetrating wounds, laparotomy, colotomy, intestinal obstruction, enterectomy, rupture of diaphragm, peritonitis treated by section and drainage, gastrotomy, pylorectomy, gastroenterectomy, etc., splenectomy, surgery of gall bladder, injuries and surgical affections of the liver, surgery of pancreas, laparonephrectomy, tumors of omentum majus, tumors of mesentery, and retro-peritoneal tumors.

Dr. S. C. Gordon, of Portland, Maine, chairman Section Obstetrics, delivered an address. Strict antiseptic methods will permit an accoucheur to continue his practice after exposure to septic influences without danger to patient. Diagnosis of early pregnancy; Hegar's method approved. Vomiting to be relieved by dilatation, lifting uterus and support by pessary or cotton. For contracted pelvis, premature labor recommended. Forcible removal of the secundines not favored. Hysteria considered in the remainder of the address; often connected with pelvic lesions of the appendages. Operation restores health; twenty-five cases of original operation with only one death, results flattering. On motion, both addresses were referred to appropriate Sections for discussion.

Report of the Rush monument committee, Dr. Gihon, chairman. Organization formed at the last meeting, ready to receive subscriptions, delighted to have one dollar from each member of the profession in the United States, and are now receiving voluntary donations from persons interested in the undertaking. Signed Gihon, Chairman; Rohé, Secretary; J. M. Jones, Treasurer. Following names added, Henry H. Smith, Pa.; Charles Vincent, United States Army, Washington; P. H. Bailhache, marine hospital service, Baltimore; Samuel J. Jones, Chicago, with preceding constituting executive committee. On motion of Dr. Quimby, Ill., amendment creating Section on Medical Jurisprudence was adopted.

THURSDAY. Report of Committee on Nominations: President, E. H. Miller, Michigan; Vice-Presidents, W. B. Welch, Arkansas; W. H. Pancoast, Pennsylvania; Wm. C. Wile, Connecticut. Permanent Secretary, W. B. Atkinson; Assistant, J. Nevins Hyde, Chicago; Treasurer, R. J. Dunglison; Librarian, Kleinschmidt; Committee on Necrology, Jones, Chairman; Trustees of the Journal, P. O. Hooper, Alonzo Garcelon, L. S. McMurtries. Place of meeting, Chicago, first Tuesday in June. Chairman Committee of Arrangements, Chas. Gilman Smith, Chicago. Report adopted.

Sections reported following nominations of Chairmen and Secretaries: Medicine, John S. Lynch, Baltimore, J. B. Marvin, Louisville; Gynæcology, F. M. Johnson, Kansas City, W. W. Jaggard, Chicago; Ophthalmology, etc., W. X. Scott, Cleveland, J. H. Thomson, Kansas City; Children, Delaskie Miller, Chicago, W. B. Lawrence, Batesville, Arkansas; Oral Surgery, J. S. Marshall, Chicago, E. S. Tallbot, Chicago; State Medicine, George H. Rohé, Baltimore, W. Wyman, Marine Hospital Service.

Committee on President's address reported, recommending that the Association memoralize Congress, (1) that a Scientific Commission should visit Cuba, Mexico, Brazil, to investigate Carmona's and Freire's alleged discoveries as to the poison of yellow fever. (2) Not agreed as to the necessity of abandoning metric system in proceedings. (3) Approve heartily Section of Medical Jurisprudence and Dermatology, and Syphilis. (4) Approve election of officers by Sections, and suggest permanent secretaries. (5) Endorse views as to Journal, and exclusive right to papers and reports. (6) Denounce practice of endorsing proprietary remedies and call attention of Judicial Council to such abuse. (7) With regard to branch organizations, advise reference to a special committee to report next year. (8) Earnestly echo the wish for the success of the International Congress, ask general coöperation. Report adopted after discussion.

Committee on Meteorology reported progress. Special Report on Cremation, by Keller, referred to Section of State Medicine. Roberts, of Pennsylvania, called for report of Judicial Council on Philadelphia delegation. President said it was in hands of Judicial Council. Roberts claimed report had been made, and was in Secretary's hands yesterday. Resolution of inquiry was offered which the President decided was out of order. Appeal taken, but decided in favor of sustaining the chair.

Whittaker, of Cincinnati, read his address as Chairman of Section of Medicine. Some points in bacteriology; general review of bacterial pathological science; methods of culture; micrococci of various forms; recent researches into experimental induction of zymotic disease.

Rauch read address on "State Medicine"; defined State medicine; not distinct from curative medicine; medical education a branch of the subject; State has unquestionable right to regulate medical practice, a part of police duty; uniform laws desirable in different States; urged upon Association to recommend extension of study to four years, and three full terms, attendance on hospital practice and clinical instruction as requirements for graduation in medicine; recommended also framing a law for regulating practice, to be offered for adoption by States where no such law now exists; final part of address urged Congress to complete health defences and rehabilitate National Board Health, or create new organization; present quarantine measures upon Atlantic and Gulf Coasts sufficient to exclude cholera, small-pox, yellow fever, by intelligent use of agencies still at command; control of immigration; vaccination briefly referred to in conclusion, and referred to Section.

Resolution by Garnett, of Washington, that delegates urge representatives in Congress to make an appropriation for the International Medical Congress.

Treasurer reported satisfactory condition of funds; balance, $378.39. Gihon offered amendment to lay over for one year, the proposed establishment of a Section on Dermatology and Syphilis; also appointing a committee to consider feasibility of branch organization, like British Medical, to report next meeting.

Adopted. Kleinschmidt, librarian, reported progress, and asked for appropriation of ten dollars for the Index Medicus. Approved. Committee on publication report Friday morning.

Executive Committee of International Congress have elected as President, N. S. Davis; Vice-Presidents, W. L. O. Baldwin, William Brodie; W. W. Dawson; E. M. Poore; J. G. Richardson; L. A. Sayre; J. M. Toner. President of the American Medical Association, the Surgeon General United States Army; Surgeon General United States Navy; Supervising Surgeon General Marine Hospital Service. For Secretary General J. B. S. Hamilton. Treasurer, E. S. F. Arnold, New York. Chairman Finance Committee, Frederick A. Dennis.

The Committee have appointed as Chairmen of Sections: Medicine, A. B. Arnold, Baltimore, Md.; Surgery, William T. Briggs, Tennessee; Military and Naval Surgery, H. H. Smith, Pa.; Obstetrics, Delaskie Miller, Chicago; Gynæcology, James H. Harrison, Va.; Anatomy, William H. Pancoast, Pa.; Physiology, J. H. Callender, Mich.; Pathology, A. B. Palmer, Mich.; Children, J. Lewis Smith, New York; Ophthalmology, E. Williams, Cincinnati; Otology, S. J. James, Chicago; Laryngology, W. H. Daly, Pittsburg; Dermatology and Syphilis, A. R. Robinson, New York; Hygiene, Joseph Jones, La.; Collective Investigation, etc., H. O. Marcy, Boston; Pathology and Nervous Diseases, John P. Gray, Utica; Dental and Oral Surgery, O. Taft, Cincinnati, Ohio.

REPORTED MORTALITY FOR THE WEEK ENDING APRIL 24, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Diph. and Croup.	Scarlet Fever.
New York	1,439,039	696	252	17.78	15.12	1.82	7.98	1.82
Philadelphia	971,363	373	130	3.07	15.93	.81	1.30	1.62
Brooklyn	600,000	320	118	15.81	13.02	1.55	3.41	4.03
Chicago	630,000	—	—	—	—	—	—	—
Boston	390,406	190	52	6.36	21.57	1.68	3.92	1.12
St. Louis	417,220	156	65	10.88	—	1.28	.64	.64
Baltimore	400,000	—	—	—	—	—	—	—
Cincinnati	325,000	—	—	—	—	—	—	—
New Orleans	238,000	—	—	—	—	—	—	—
Buffalo	202,818	—	—	—	—	—	—	—
District of Columbia	205,000	76	32	10.86	19.80	—	1.32	—
Pittsburgh	190,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	118,070	34	8	11.76	29.40	5.28	2.94	—
New Haven	78,000	—	—	—	—	—	—	—
Nashville	60,000	—	—	—	—	—	—	—
Charleston	60,145	40	10	12.50	20.00	—	9.60	—
Worcester	68,383	26	7	3.85	15.40	—	3.85	—
Lowell	64,051	33	10	9.09	18.18	—	3.03	—
Cambridge	59,960	24	7	4.16	29.12	—	4.16	—
Fall River	56,863	15	8	20.00	—	6.66	—	6.66
Lynn	45,861	17	3	—	23.52	—	—	—
Lawrence	38,825	12	3	41.66	8.33	—	—	16.66
Springfield	37,577	—	—	—	—	—	—	—
New Bedford	33,393	12	4	—	16.66	—	—	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	9	3	—	11.11	—	—	—
Holyoke	27,894	—	—	—	—	—	—	—
Chelsea	25,709	7	3	14.28	—	—	14.28	—
Taunton	23,674	12	8	—	16.66	—	—	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	4	1	—	—	—	—	—
Brockton	20,783	—	—	—	—	—	—	—
Newton	19,759	4	1	—	50.00	—	—	—
Malden	16,407	4	1	50.00	50.00	—	25.00	—
Fitchburg	15,375	2	—	—	50.00	—	—	—
Waltham	14,609	3	1	—	33.33	—	—	—
Newburyport	13,716	2	—	—	—	—	—	—
Northampton	12,896	11	6	—	18.18	—	—	—
89 Massachusetts Towns	—	47	14	12.78	12.78	2.13	2.13	2.13

Deaths reported 2,129: under five years of age 747: principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 260, consumption 311, lung diseases 232, diphtheria and croup 95, diarrhœal diseases 79, scarlet fever 39, whooping-cough 29, measles 16, malarial fever 16, typhoid fever 12, erysipelas 11, cerebro-spinal meningitis 10, puerperal fever three. From whooping-cough, New York and Brooklyn 12 each, District of Columbia three, Charleston one. From malarial fevers, New York 12, Brooklyn three, District of Columbia one. From measles, Baltimore ten, New York four, Brooklyn and Lawrence one each. From typhoid fever, New York five, District of Columbia and Lawrence two each, Baltimore and Providence one each. From erysipelas, New York and Brooklyn five each, Baltimore one. From cerebro-spinal meningitis, New York six, Lowell two, Baltimore and Fall River one each. From puerperal fever, Brooklyn two, District of Columbia one.

In 106 cities and towns of Massachusetts, with a population of 1,229,278 (population of the State 1,941,465), the total death-rate for the week was 18.02 against 15.99 and 18.28 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending April 10th the death-rate was 20.1. Deaths reported 3,500: infants under one year of age 834; whooping-cough 131, measles 121, diarrhœa 37, scarlet fever 26, fever 26, diphtheria 21.

The death-rates ranged from 15.5 in Hull to 28.7 in Portsmouth; Birmingham 18.6; Blackburn 26.8; Leeds 17.9; Leicester 18.3; Liverpool 20.6; London 19.9; Manchester 25.6; Newcastle-on-Tyne 23.5; Nottingham 21.1; Sheffield 16.6; Sunderland 20.1; Wolverhampton 16.3.

In Edinburgh 17.8; Glasgow 24.7; Dublin 33.0.

For the week ending April 10th in the Swiss towns, there were 53 deaths from lung diseases, consumption 41, diarrhœal diseases 10, small-pox seven, erysipelas three, whooping-cough three, measles one, scarlet fever one.

The death-rates were: at Zurich 13.4; Geneva 22.2; Basle 25.2; Berne 42.8.

The meteorological record for week ending April 24, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps. —

Week ending Saturday, Apr. 24, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday, ...18	30.351	57.0	73.0	43.0	53.0	37.0	59.0	50.0	W.	S.E.	W.	6	6	12	C.	C.	C.	—	—
Monday, ..19	30.245	60.0	74.0	52.0	53.0	49.0	66.0	56.0	N.W.	S.E.	E.	11	12	2	C.	C.	F.	—	—
Tuesday, ..20	30.271	49.0	58.0	44.0	65.0	79.0	81.0	75.0	E.	E.	S.	14	11	3	F.	O.	O.	—	—
Wednes., .21	30.064	63.0	78.0	47.0	63.0	34.0	58.0	52.0	W.	W.	W.	8	8	12	C.	F.	C.	—	—
Thursday, 22	30.049	54.0	62.0	48.0	61.0	78.0	75.0	71.0	N.E.	E.	S.W.	14	7	2	F.	C.	C.	—	—
Friday, ...23	29.798	69.0	83.0	49.0	52.0	24.0	55.0	44.0	S.W.	W.	W.	9	12	12	C.	C.	C.	—	—
Saturday, .24	29.834	58.0	73.0	51.0	48.0	68.0	66.0	61.0	W.	E.	S.W.	14	14	3	F.	O.	C.	3.5	0.01
Mean, the Week.	30.087	59.0	71.5	49.5				58.0											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM APRIL 24, 1886, TO APRIL 30, 1886.

CORSON, JOSEPH K., captain and assistant surgeon. Granted ten days extension leave of absence, granted in orders, No. 79, April 15, 1886, Jefferson Barracks, Mo. S. O. 97, A. G. O., April 26, 1886.

WILSON, WM. J., captain and assistant surgeon (Plattsburg Barracks, N. Y.) Granted leave of absence for one month on surgeon's certificate of disability. S. O. 25, Division of the Atlantic, April 27, 1886.

BENHAM, ROBERT B., captain and assistant surgeon. Ordered from Department Texas to Department Dakota. S. O. 97, A. G. O., April 26, 1886.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING MAY 1, 1886.

WIEBER, F. W. F., assistant surgeon. Detached from Revenue Steamship "Vermont," and ordered to the "Hartford."

TRACY, ELMER C., assistant surgeon. Ordered to the "Vermont."

WAGGENER, J. R., passed assistant surgeon. Detached from the "Hartford," and ordered to the "Iroquis."

BRANSFORD, J. F., surgeon. Detached from the "Iroquis," to proceed home and await orders.

KITE, ISAAC W., assistant surgeon. To duty at Naval Hospital, Brooklyn, N. Y.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE FOR THE WEEK ENDING APRIL 24, 1886.

LONG, W. H., surgeon. Granted leave of absence for seven days, April 24, 1886.

BANKS, C. E., passed assistant surgeon. Granted leave of absence for ten days, April 20, 1886.

ARMSTRONG, S. T., passed assistant surgeon. Granted leave of absence for five days, April 20, 1886.

SOCIETY NOTICES.

MASSACHUSETTS MEDICAL SOCIETY, SUFFOLK DISTRICT. — The Section for Clinical Medicine, Pathology and Hygiene will meet at 19 Boylston Place, on Wednesday, May 12th, at 7.45 o'clock. Papers: Dr. Grace Wolcott, "A Case of Ulcerative Endocarditis." Dr. H. C. Haven, "The Etiology and Treatment of Summer Diarrhœa of Infants." Dr. G. W. Galvin will exhibit and demonstrate a new instrument for the treatment of Pulmonary Phthisis and Diphtheria. The Picture, which was to have been presented at the last meeting, will be delivered to the Section on this occasion. Refreshments after the meeting.

F. I. KNIGHT, M.D., *Chairman.*
ALBERT N. BLODGETT, M.D., *Secretary.*

NORFOLK DISTRICT MEDICAL SOCIETY. — The annual meeting will be held at Rockland Hall, 2343 Washington Street, Roxbury, on Tuesday, May 11th, at 2 P.M. The Board of Censors will meet at the same place at 1 P.M. Order of Business: 1. Reading of Records of previous Meeting. 2. Reports from Committees. 3. Election of Officers. 4. Report of Treasurer. 5. Incidental Business. 6. Communications: I. "Minor Cases of Renal Disease," C. F. Withington, M.D. II. "A Case of Empyema with Perforation of the Lung; Permanent Opening; Recovery," H. W. Broughton, M.D. 7. Introduction of newly-elected Officers.

S. ALLEN POTTER, M.D., *Secretary.*

ALUMNI ASSOCIATION OF THE WOMAN'S HOSPITAL IN THE STATE OF NEW YORK. — Second Meeting at the New York Academy of Medicine, May 19, 1886. Order: Morning Session, 10 to 1. Address by the Chairman, Dr. T. Addis Emmet. "The Influence, from a Clinical Standpoint, of Cicatricial Tissue in the Angles of the Lacerated Cervix," by Dr. William E. Moseley, of Baltimore. "The Surgical Treatment of Subinvolution," by Dr. A. Palmer Dudley, of New York. "Hobbies in Gynæcology, and the Importance of avoiding them," by Dr. Thomas L. Axtell, of Waterbury, Ct. Afternoon Session, 2 to 5. "The Differentiation of the various kinds of Pelvic Cellulitis," by Dr. James R. Goffee, of New York. "The Abuse of Intra-Uterine Medication," by Dr. Bache McE. Emmet, of New York. "Impressions of German and English Gynæcology, by an Alumnus of the Woman's Hospital," by John Duncan Emmet, of New York. Business and Social Meeting, 8 P.M.

H. C. COE, M.D., *Secretary.*

PENNSYLVANIA STATE BOARD OF HEALTH. — The State Sanitary Convention will be held at M'Caull's Opera House, Broad Street, below Locust Street, Philadelphia, Wednesday, Thursday and Friday, May 12th, 13th and 14th. Sessions from 10 A.M. to 1 P.M., and from 2 P.M. to 6 P.M. Annual Address before the Board, Wednesday Evening, May 12th, at 8 P.M.

AMERICAN CLIMATOLOGICAL ASSOCIATION. — The Third Annual Meeting will be held in Philadelphia, Monday and Tuesday, May 10th and 11th, at the College of Physicians, N.E., Corner 13th and Locust Streets.

APPOINTMENTS.

J. W. Elliott, M.D., S. J. Mixter, M.D., and F. B. Harrington, M.D., have been appointed Surgeons to Out-Patients at the Massachusetts General Hospital.

G. M. Garland, M.D., and J. J. Minot, M.D., have been appointed Physicians to Out-Patients at the same institution.

BOOKS AND PAMPHLETS RECEIVED.

The Principles and Practice of Surgery. By Frank Hastings Hamilton, A.M., M.D., Ph.D., Late Professor of the Practice of Surgery in Bellevue Hospital Medical College, etc. Illustrated with 472 engravings on wood. Third edition revised and corrected. New York: Wm. Wood & Co. 1886.

Coca, Cocaine and its Salts: Their History, Medical and Economic Uses, and Medicinal Preparations. By William Martindale, F.C.S., Late Examiner of the Pharmaceutical Society. Joint Author of the "Extra Pharmacopœia." London: H. K. Lewis, 136 Gower St., W. C.

The Original Jennerian Vaccine Virus as Preserved and Used in the Public Vaccinations in the City of Providence, R. I. (Reprint from annual report of Charles V. Chapin, M.D., Superintendent of Health, with Notes by C. H. Leonard, M.D.)

Boylston Prize Essay, 1855. The Best Preliminary Education for the Study of Medicine. By Edward S. Stevens, M.D., Lebanon, O.

Original Article.

MILITARY DRILL AS A MEANS OF PHYSICAL TRAINING FOR BOYS.[1]

BY CHARLES F. WITHINGTON, M.D.

THE importance which, of late years, is coming to be attached to physical culture as a constituent of every properly-arranged system of education for youth, is one of the encouraging signs of the times. No class of men, we believe, are more heartily disposed to second this reform than the medical profession, and it is certainly well within the scope of this Section to devote some consideration to the relative hygienic advantages of the various means which have been suggested for promoting physical development.

Military drill has been selected by the educational authorities of this city as the chief instrumentality for the physical training of the pupils. For the boys, it is practically the only bodily exercise provided. In other cities of the Commonwealth, it has also been introduced into the public schools; as for instance, in Lowell, Springfield, Newton, Salem, and Gloucester, and its introduction is contemplated in still other places. When so important a function as that of the physical training of our boys is devolved solely (so far, at least, as concerns public educational authority) upon one particular instrumentality, it is important to learn whether that instrumentality is more fruitful in the desired results than any other that is attainable.

The history of the introduction of military drill into the public schools of Boston is briefly as follows: In 1863, under the pressure of the war excitement, and in view of the unfamiliarity with military tactics in which the North found herself at the outbreak of the Rebellion, a number of patriotic individuals, headed, I believe, by Edward Everett, demanded that instruction in military tactics be made a part of the common school education. A sub-committee, to whom this matter was referred, reported that they were of opinion that it was expedient to introduce instruction in military gymnastics and drill into the public schools for boys, "both as a means of physical training, and ultimately, of national defence." This instruction was to be given by the teachers, and, after a time, by the pupils themselves, under their supervision, a competent instructor in gymnastics and drill being employed to instruct some or all of the masters and ushers. The gymnastics and drill were to occupy half an hour, three times a week, and were to be carried on in the open air, except in inclement weather, when a convenient hall might be used. The plan was to be tried in the Latin, English High, and two of the grammar schools.

An instructor was accordingly secured, but in the practical working of the plan, certain changes were soon made. With the exception of an occasional street parade, the drilling has been carried on almost wholly in halls hired or constructed for the purpose. The exercise was restricted to the boys of the High and Latin schools, and was placed under the sole charge of the special instructor. The order for gymnastic training was construed to mean simply that involved in the use of the military tactics. It may be mentioned, that for the girls of corresponding grades, a system of calisthenics was established, which is still maintained with good results under a teacher of gymnastics and vocal culture, and which gives each girl from ten to twenty minutes of exercise daily.

The present status of military drill in the Boston public schools is this: about 1,300 boys, being all the male pupils of the seven high schools, and of the Latin School, practise drill for two hours each per week. All boys over thirteen years of age are required to drill, no one being excused without a physician's certificate declaring his inability. For the first two or three weeks of the year, the exercise is without guns. During this time, the boys are practised in alignments, facing, marching in line, and by the flank, and to a certain extent, in the so-called "setting up," which, according to Upton's "Tactics," comprises four manœuvres, executed without apparatus, and designed to exercise the muscles of the chest, arms, scapulæ, spine, and to some extent, of the legs. This "setting up," which, for gymnastic purposes, is the most valuable feature of the drill, and which is directed in the "Tactics" to be often recurred to, that all soldiers shall be frequently practised therein, receives, after the guns are issued, only a hasty and perfunctory execution under the command of the captains, the entire interest of the boys being centred upon drill with the muskets.

The arms used are the regulation breech-loading pieces of the army, finished down to a somewhat lighter weight than that prescribed for the service. The standard arm weighs nine pounds. Those used by the boys are of two sizes, the one having a thirty-one-inch barrel, and weighing eight pounds without the bayonet; and the second size (for the smallest boys) having a barrel of twenty-seven and a half inches, and weighing seven and three-quarters pounds. In addition, the bayonet weighs one pound, and as it is required to be fixed to the gun during the dress parade, there is necessarily more or less practice of the manual with the bayonet in position, that the boys may become accustomed to the increased difficulties involved in this addition to the weight of their pieces. Moreover, the "bayonet drill" is always learned and practised by a certain proportion of the boys for spectacular purposes in connection with the annual exhibitions. In this connection, it may be mentioned that the West Point cadets, whose average age is several years older than that of the boys in question, and whose frames are correspondingly matured, use for their infantry drill a piece weighing only seven pounds.

The State requires instruction in military drill to be given in the educational institutions which it subsidizes. Hence it is practised during a portion of the course at the Amherst Agricultural College and at the Massachusetts Institute of Technology. But the age of the pupils in these colleges is such that they are hardly to be compared as "growing boys" with the pupils of the preparatory schools. In the Chauncy Hall School, in this city, drill is compulsory for two and a half hours per week, and about one hundred and fifty boys perform that exercise. The largest boys have a piece weighing eight pounds, younger boys one of five pounds; and the so-called "pony" company (aged from ten to thirteen years), a piece weighing but three and a half pounds. I also learn of a private school in New York, where the guns used weigh only from two to three pounds. Of course, if drill must be practised, these light pieces are much less capable of doing harm than the eight-pound guns used in our

[1] Read before the Massachusetts Medical Society, Suffolk District, Section for Clinical Medicine, Pathology, and Hygiene, April 14, 1886.

public schools — a pound heavier than those carried by the athletic cadets of West Point.

The question before us is one of wide bearings, and the writer is far from claiming that the physical effect of drill is the only one which educators should take into account. For instance, it may be claimed for it that it inculcates subordination to authority, with promptitude, and precision of obedience; that it is an important aid to maintaining the discipline of a large school (which undoubtedly explains the favor with which many teachers regard it); that it may supplement the work of the militia in providing a citizen soldiery for time of war. On the other hand, there are the ethical and sentimental objections entertained by some of the parents against the *morale* of the thing; the expense of its maintenance, and especially the heavy expense entailed upon many of the boys themselves; and the fact that its application is limited to about two per cent. of all the pupils in the public schools. The last of these considerations is of serious importance as affecting the value of the system as a general means of physical culture, but with the others this paper is not concerned.

Before passing to an examination of the physical effects of drill upon the pliant structures of the immature and growing organism, I may remark that the specific effects upon the adult frame of the bearing of arms, apart from other associated conditions, do not seem to be clearly established. The only record of scientific value which I have met on this point is contained in a volume by Dr. Fetzer,[2] of Stuttgart, Staff and Battalion Surgeon of the 7th Würtemberg Infantry regiment. This observer made a series of careful measurements of some 350 recruits at intervals of three or four months during their first year of service, and noted an improvement in the various chest-measurements during that time. These men were about twenty or twenty-one years of age, and were drilled daily six hours in the open air. Yet some of these enlisted men, who were employed as musicians and artisans, and who (particularly the latter) had very little practice with arms, showed also a considerable improvement in their various measurements, though not, it is true, equal to that of the regular soldiers. The question arises how much of this improvement was due to the practice with arms, and how much to the out-of-door life, the regular habits and the improved diet? The author himself regrets the lack of any knowledge as to the comparative measurements in men who were drilled with and without weapons.

But even if we admit the advantage of military drill with the other accompaniments of camp life, for the fully developed organism, the question of its value for young and growing boys rests upon quite another basis. The weight of the arms used bears a much higher ratio to the strength of those carrying them in the case of young boys than in the case of adults; while the immature condition of the osseous and muscular systems in the former class renders them much more liable to injury in case the weight of the arms is too great for them, and especially if the weight falls unequally upon the two sides of the body.

One of the highest authorities on spinal curvature, Mr. Adams, of London, assigns as the proximate cause of lateral curvature, local and mechanical conditions disturbing the equilibrium of the spine and consisting essentially of "*long continued irregular distribution of weight*."[3] This view is confirmed by recent experiments of Dr. E. H. Bradford.[4] In the cases of this affection which occurs in boys, Mr. Adams declares (p. 157) that the cause is generally this local and mechanical one rather than the remoter constitutional one which often coöperates with it to produce the deformity in girls. Among such factors, producing disturbance of equilibrium of the spine, he shows to be certain one-sided occupations, such as ironing, book-folding, needle-work, carrying children, or other heavy weights. He cites cases of spinal deviation in a boy who was in the habit of carrying parcels on his shoulders up a spiral stair-case, a postman with his satchel hung on one side, etc. The mode in which the deformity is produced is this: the right shoulder, for instance, being habitually or often carried higher than the other, a convexity of the dorsal spine is made towards the right and the muscles on that side are stretched. The weight of the vertebræ instead of falling as normally wholly on the intervertebral cartilages, rests in part on the articular processes, their only other point of contact; the one on the side corresponding to the concavity, yields and is pushed downwards. As these processes are posterior and lateral to the bodies, their yielding causes rotation of the bodies toward the convexity of the curve, and the other pathological concomitants of the distortion follow. According to this view what stands between any one exposed to habitual one-sided superincumbent weight and lateral spinal deformity, is these articular processes, which at and before puberty are in a soft and yielding state.

Now, when a boy is holding an eight-pound musket at either carry or right-shoulder arms, which are the two commonest orders, his frame experiences in a minor degree, and subject to the military requirements of holding himself straight, what it does when he carries a pail of water. The weight is either suspended by the arm muscles from the scapula or rests directly over that bone. Thence it is transferred through the trapezius and the two rhomboidei muscles to the spinous processes, and through the serratus magnus and the eight or ten upper ribs to the bodies of the dorsal vertebræ. To sustain this pressure the shoulder rises and the muscles mentioned are called into active play. So that whether we adopt Adams' theory of oblique superincumbent pressure or the older one of unequal muscular action, there is a tendency, proportioned to the length and magnitude of the pressure, and greatest in the immature organism, towards spinal asymmetry.

It should here be mentioned that the military instructor in Boston has, with a view of obviating this evil tendency of drill, very thoughtfully modified his manual from that of the regular army tactics by introducing a new order, left-shoulder arms, which the captains are instructed to substitute occasionally for the ordinary marching order of right-shoulder arms. But waiving the difficulty inherent in all unilateral gymnastics of accurately dividing the exercise, which always comes easier to the right side than to the left, between the two halves of the body, the fact remains that the manual, even in its mitigated form, gives much more work to the right than to the left side. For

[2] Ueber den Einfluss des Militärdienstes auf die Korperentwickelung, von Dr. Berthold Karl Fetzer, Stuttgart; verlag von Adolf Bonz and Comp. 1879.

[3] Lectures on the Pathology and Treatment of Lateral and other Forms of Curvature of the Spine. By Wm. Adams, F.R.C.S. Second Edition. London. 1882. p. 129.

[4] Boston Medical and Surgical Journal, March 15, 1885.

instance, of sixteen manœuvres in the manual without command, five are carry and three right shoulder arms; while of the remaining eight, four are executed on the right side of the body. Of course with lighter guns the evil would be less, but when we hear of curvatures resulting from lace-winding,[5] and croquet playing,[6] which are well recognized facts, we are forced to believe that any habitual exercise designed for body-building, especially in growing boys, should be performed with both sides simultaneously.

It will be very properly asked, do any of these cases of lateral deviation which might *à priori* be looked for, actually occur?

In reply I would cite this case now under my own observation. A boy of average height, excellent health, and more than ordinary muscular development, began drill with a nearly eight-pound gun, at the age of fourteen. At that time he was perfectly symmetrical, so far as the careful observation of his parents can inform us. He has led a healthy school-boy life, but has never performed any manual labor or other exercise which could produce a spinal bias. Toward the end of the second year of military drill, the following conditions were recognized and are now present, though it is nearly a year since the drill was discontinued: A prominence of the right scapula; a right lateral curvature of the dorsal spine, the spinous processes from about the third to the ninth dorsal vertebræ deviating to the right; a compensatory left curvature, shorter and sharper, affecting three or four of the lumbar vertebræ; a marked prominence of the left costal cartilages. In short, the classic symptoms of double spinal lateral curvature, for which no other cause can be fairly assigned than military drill.

Now, I am far from claiming that these unfortunate results follow in all or even in a majority of the boys who drill. Many by reason of the maturity and strength of their tissues, are able to resist these untoward influences. But Dr. Sargent informs me that in his examinations at the Hemenway gymnasium he not uncommonly meets such cases of asymmetry in boys who come to college from schools where they have been drilled from an early age. So that it seems fairly in evidence that spinal deviations, in which drill was a factor, have occurred.

Authorities on physical culture all unite in condemning those forms of exercise which are one-sided in character. For this reason, nearly twenty years ago, Ravenstein and Hulley, the authors of one of the leading English works on physical training, while strongly advocating school gymnastics for boys and girls, as strongly condemned military drill.[7] In order to be sure that the development of the two sides of the body shall go on equally, the work of the two halves should be carried on simultaneously; only so can absolute equality be assured.

Thus, while fencing is considered a proper professional acquirement for army officers, it is not held to be a proper developmental exercise. Indeed, that it may not do positive harm, by producing physical asymmetry, the British officers are enjoined to practise it with each hand.

There is a common idea that the benefit of an exercise is commensurate with the fatigue which it induces, whereas the true theory of exercise is through the action of all the principal groups of muscles, accompanied as such action necessarily is, by a quickening of breathing and of circulation, (but not necessarily or properly by a feeling of exhaustion) to promote an acceleration in the processes of destruction and renovation of the tissues of the body. For the health and strength of the organism is proportional to the rapidity of these changes, or in other words, to the newness of the structures of the body.[8]

When a group of muscles contract, their metabolic activity increases, and through the material brought to them by the blood vessels, their nutrition is improved. But for the time during which the muscular contraction continues, the blood supply is impeded through the encroachment upon the lumen of the vessels, of the contracted and therefore thickened fibres. Hence the most useful form of exercise is that in which periods of muscular contraction are alternated at short intervals with periods of relaxation, during which the blood can freely enter the muscular structure to sweep out the exhausted material and to bring its renewing supply. Now, in marching with a gun at shoulder or at carry arms certain groups of muscles occupied in sustaining the weight are kept in a condition of tension for a long time so that they may become very tired, yet from the constancy of the tension the muscles cannot receive their required nourishment through the blood vessels until the strain is removed, or, in other words, till the exercise is over. With chest weights and with rowing, on the other hand, there is a constant and rapid alternation of contraction and relaxation, the former being accompanied by the explosive decomposition of material, and the latter by the reception of new material to replace it. Even with dumb bells and indian clubs under which the muscles do not experience such a rapid succession of activity and complete repose, the brief duration of the exercise, followed by the laying down of weight affords the needed opportunity for tissue renewal. The execution of the manual of arms does afford exercise to various groups of muscles; but the carrying of the guns in march or parade, in which the greater part of the drill hour is spent, tetanizes and exhausts the muscles, rather than exercises them.

Once more, military drill was never designed for the purpose of affording physical training. "The movements explained in the tactics," says Upton, "are confined as nearly as possible to those finding practical application in war." Now, just in proportion to the skill with which any instrument is adopted for one particular purpose, is the imperfectness of that instrument when converted to another use. A crowbar may be employed for many things, but a sewing machine is useless for any other purpose than that for which it was designed. It seems hardly to require argument to show that some method can be provided better adapted to securing physical development, than a system which was organized with a totally different end in view.

Probably nowhere in this country do young men receive more careful attention to their physical development than at the West Point Academy. The cadets are obliged to learn and practice military drill as a part of their professional education. Yet this is not relied upon for physical culture. They have not only

[5] Adams, loc. cit. p. 157.
[6] Orthopraxy, etc., by Henry Heather Bigg. Third Edition. London. p. 292.
[7] Handbook of Gymnastics and Athletics, by E. S. Ravenstein and John Holley, London, 1867, pp. 5 and 6.
[8] Training in Theory and Practice, by Archibald McClaren, London, 1874, p. 6.

the infantry drill but artillery and cavalry drill with prolonged instruction from a riding master, yet it has been found desirable to add a gymnasium in which systematic training is given every group of muscles in the body.

At Aldershot a gymnasium has been provided for the physical training of the enlisted men who are sent to that great camp for instruction. Not only are all new recruits required to work systematically in the gymnasium for the first three months but all other enlisted men who have been less than ten years in the service, are obliged to go through a similar training, and both classes are encouraged to a voluntary use of the gymnasium (of course under instruction), after the expiration of their compulsory term. In the German army, gymnastics play a more considerable part in the training, both of officers and privates, than even in England or this country. These facts and others that might be cited, seem to indicate that military drill is not considered, at least by the army authorities, to constitute the best possible means of physical development.

The objections that have been urged in this paper, to military drill as a sole means of physical culture for growing boys, may thus be summarized :

(1) The anatomical objection, based upon the fact of the obliquity of the superincumbent weight with reference to the spinal axis.

(2) The physiological objection, based on the production of a *tension* of the muscles, rather than of that constant alternation of activity and repose which best conduces to their nutrition.

(3) What may be called the philosophical objection, based on a lack of adaptation in design for the end to which the system has become converted.

It is beyond the aim of the present paper, already too prolonged, to consider what substitute for military drill might profitably be made in the public schools. I would only suggest that the system of physical training which for many years has given successful results in the schools of Germany, seems to offer at least one solution to the problem. The point that military drill is better than no stated exercise, even if that were to be granted, would not meet the objections of this paper. Neither is it germane to the subject to say, as has been said, that drill is less objectionable than a gymnasium without any supervision. It would be equally fair to introduce into the comparison an armory, supplied we might almost say with loaded guns, where boys were allowed to play about at helter-skelter, without system or instruction. Perhaps there would be little to choose in the uselessness or even the harmfulness of the two.

The drill should fairly be compared in its design and practical application to physical training, in its adaptability to all the scholars of public-school age, and, above all, in its freedom from harmful effects, with the best attainable methods of modern scientific physical culture. Weighed in this balance, the drill, I believe, will be found wanting.

— The death of Prof. Bouchardat occurred in Paris last month in the eightieth year of his age. He was a copious writer on subjects connected with Materia Medica, Pharmacology and Hygiene. He had been president of the Academy of Medicine, and was an officer of the Legion of Honor.

Clinical Memoranda.

A CASE OF DIABETES IN A CHILD-BEARING PATIENT.

BY EMERSON WARNER, M.D., OF WORCESTER, MASS.

MRS. M., aged thirty-two ; rather tall, large frame, light complexion. Married eleven years. Weight previous to marriage, one hundred and fifty pounds.

Her first child was born between eleven and twelve months after marriage. Health up to this time, including period of gestation, good. Labor was protracted. For twelve hours pains were severe. Instruments were used and a living child was delivered, whose weight was said to be sixteen and a half pounds. This boy is to-day her only living child. After this first confinement, she made a good recovery, and nursed her child fifteen months. During the time of nursing, she flowed more than usual ; otherwise, no unusual complaint.

She was confined the second time two and a half years later. When this pregnancy had advanced five months, she suffered from an attack of pruritus pudendi, which continued till confinement. During this gestation, she became very much bloated, was very thirsty, and passed much water. Her weight increased to two hundred and fifteen pounds. This confinement was long and tedious. Weight of child, seventeen pounds ; supposed to have been dead two weeks. Made a good recovery in the main. Bloat and pruritis ceased. Thirst and polyuria remained.

Her third confinement occurred one year later. She suffered from recurrence of pruritis immediately on becoming pregnant. Thirst and polyuria continued and she became much bloated, but her great weight of the previous pregnancy was reduced to about one hundred and sixty pounds, which has been her average weight ever since.

It was during this labor that the writer was first called. The labor was unusually long and severe. The child was thought to be dead. No signs of life had been observed for two weeks or more. There was a large amount of liquor amnii. The head came down readily, but difficulty was encountered on attempting to deliver the shoulders and body. The cuticle peeled off from the child in the process of delivery, and great traction was required, with the aid of a towel passing over one shoulder, and under the arm on the opposite side. This child weighed sixteen and two-thirds pounds. This weight the writer verified. After this labor, patient required to be catheterized a few times ; otherwise did fairly well, but pruritus, thirst, and polyuria continued.

Thirteen months later, occurred her next confinement. Some œdema of the legs and labia caused inconvenience, but the pruritus was the most tormenting symptom. She was very large ; abdomen very prominent. When called, the os was fully dilated. Upon the usual digital examination, only the bag of waters could be felt. Introducing the whole hand into the vagina, the abdomen of the child was felt. The child seemed to lie transversely across, shelved upon sacral projection and pubes. A foot was seized, and membranes ruptured. While the waters were escaping — a flood — the foot was drawn upon and the child nearly turned. With the hand in the vagina, the thigh of the other leg was hooked by the finger and the leg drawn down.

With strong traction, the child was delivered, dead; cuticle peeled off; weight, thirteen pounds. Though it was a cold night, the operator was bathed in perspiration and well-high exhausted. Patient made a good recovery. Ten months later, the patient suffered from a miscarriage, a five-months' fœtus. No cause could be assigned. Four months later, another miscarriage, a two-months' fœtus. No cause known. Three months later, another miscarriage, a six weeks' fœtus. Upon inquiry how she knew it was a miscarriage, she replied, "I saw the child." She is a woman of intelligence above the average of her class. Ten months later, miscarried at two months.

Two years later, January 22d, 1886, occurred her last confinement. She was threatened in her early months of gestation with miscarriage, but tided over, and was fairly comfortable, for her, till after the fifth month. Then her troubles began to increase upon her, œdema, pruritus, dyspnœa, restlessness, sleeplessness, inability to lie down, great weakness, and discomfort, sitting or lying.

At the seventh month, she suggested the question of inducing labor. She felt that this was necessitated by her sufferings, and though a good Catholic, that it was justifiable. She did not expect the child to be born alive, and two weeks after, she ceased to feel motion, and realized that probably fœtal life had become extinct. Under treatment, her sufferings were somewhat mitigated, and she was induced to wait until nature indicated that the full time had come.

Not being called till the first stage was completed, the same, or similar conditions were found to exist as in the previous labor. On introducing the hand, the first part reached was the navel with the cord. The feet were felt for, the membranes ruptured; six quarts of liquor amnii were received into basins previously provided for the purpose, and the child was delivered as in the previous confinement. This time, the weight was estimated at ten pounds or upwards. Previously, labor had taken place about two weeks after the supposed death of the fœtus; this time, not till six or seven weeks after. This probably had some influence in giving a child of less weight.

Her recovery has been somewhat protracted. The flow was at times rather profuse. The quantity of urine rose from three gallons to six gallons a day. Amount of sugar present, thirty-nine grains to the ounce.

At the present writing, April 19th, the quantity of urine in twenty-four hours is three gallons again. No test for sugar since the last statement.

She is again in very good health. Is able to be on the street; does most of her work; suffers comparatively little from pruritus. The last, and most suspicious symptom complained of, is a tendency to a formation of sores, little abscesses, on the fingers, in her hands, and in some other parts.

Her diet, which, for a considerable time, has been her treatment in the main, has consisted almost wholly of milk. She consumes five or six quarts of milk a day, and twice a week in addition, she takes two eight or eight and a half-quart cans of skim milk. She often goes a week with no other food. Her treatment, at times, has been varied, and at the hands of different men. The writer, when obliged to medicate, has relied mostly upon bromides, ergot, and opium. The pruritus has been controlled best by a solution of bichloride of mercury. An aunt of the patient died of this disease after a year's illness. She weighed about three hundred pounds. She had, at the last, large sores, probably of diabetic origin.

Since the above was written, the following has been taken from notes of Dr. L. Wheeler, who observed the case, and made some analyses of the urine between April 17, 1883, and August 11, 1883.

April 26. Quantity of urine, 32 ounces; specific gravity, 1039; specific gravity after fermentation, 1004; amount of sugar in twenty-four hours, ℥ 37⅛.

May 1st. Quantity, 29 ounces; specific gravity, unfermented, 1040; specific gravity, fermented, 1004; amount of sugar in twenty-four hours, ℥ 34.8.

May 9th. Quantity, two gallons; specific gravity, 1040–1004; amount of sugar in twenty-four hours, ℥ 18.1.

May 16th. Quantity, 17 ounces; specific gravity, 1040–1005; sugar in twenty-four hours, ℥ 19 5-6.

May 24th. Quantity, three gallons; specific gravity, 1035–1003; sugar in twenty-four hours, ℥ 25.6.

During this time she took various remedies. Brom. ammonium, opium, arsenic, ergot, belladonna, codeia, gluten-flour bread, and Hunyadi water; iodine was applied to the cervical canal of uterus, bichloride and chloral solutions to control pruritus, but all did little, if any, good. She used largely, as she is doing to-day, her milk diet, and for the most part, seems to do as well without medicine as when using it.

Reports of Societies.

MASSACHUSETTS MEDICAL SOCIETY, SUFFOLK DISTRICT. SECTION FOR CLINICAL MEDICINE, PATHOLOGY AND HYGIENE.

ALBERT N. BLODGETT, M.D., SECRETARY.

April 14th, 1886. By courtesy of the Massachusetts Institute of Technology, the Section was convened in the hall of that building. The meeting was called to order at 8 o'clock, by Dr. F. I. Knight, the Chairman. Before the regular exercises were commenced, the Chairman stated that the picture which was to have been presented at this meeting was not quite ready, and its presentation had been therefore postponed to the next meeting.

ABNORMAL ARTERY OF THE PHARYNX.

The records of the last meeting were read in summary by the Secretary, and approved. By permission of the Sections Dr. J. W. Farlow then exhibited a girl aged twelve years, in whom a large artery was seen passing in a diagonal direction across the posterior wall of the pharynx, where its pulsations were plainly visible, and could be felt by the finger. The vessel was of larger size than the radial artery in the same patient, and was covered only by the mucous membrane. Dr. Farlow described the condition of the parts in the following words:

"The case is interesting on account of its extreme rarity, and because of its bearing on the surgery of the throat. It is a case in which we may plainly see and feel a large pulsating artery on each side of the back of the pharynx, about a quarter of an inch inside of the posterior pillar of the fauces. In a service of several years in the throat-room of the Boston Dispensary, I have never met a case before. Dr. Knight remem-

bers to have seen one similar case. During the week following the appearance of the present patient, another case was observed at the same institution, but in the second case the vessel was seen and felt on the right side only. It occupied, however, the same situation. Dr. Leland saw a single case at the dispensary, about a week later, which he kindly asked me to examine with him. I find the abnormal distribution of the large vessels of the pharynx hardly mentioned in works on diseases of the throat. In anatomical works, the possibility of variation in distribution of the vascular channels is alluded to in a cursory manner; but clinically very little has been said or written upon this subject.

"These vessels are usually deeply situated and quite small. The vessel in the left side in the present case feels considerably larger than the radial. In all surgical operations on the back of the pharynx, such as incision, or the application of the Galvano-cautery, we may see at once how important it is to bear in mind the possibility of such a case as this, and to examine carefully as to the exact position of the bloodvessels. If the tonsillar branch were abnormally large, it would be sufficient to cause a very severe hæmorrhage after tonsillotomy, or deep incision; as in the case reported by Dr. Lefferts of New York, in which a vessel was cut by the guillotine, of so large a size as to require the application of a ligature, on account of the alarming hæmorrhage. Possibly in other cases of profuse bleeding after tonsillotomy, a similar condition of enlarged or abnormally situated vessels might be found."

A CASE OF LUPUS ERYTHEMATOSUS

Was presented by DR. W. N. BULLARD. The patient was a girl aged thirteen years. The disease had existed one year, and was seated on the face and hands. The color of the skin in these parts was of a mottled hue, and on the face were a large number of small scars, which were somewhat below the level of the surrounding skin, and were of a dead white color. On the hands, which were similarly affected, the disease appeared as large elevated nodules of a livid color, and were confined principally to the extensor surfaces of the fingers, though the whole dorsum of each hand was of the same livid and mottled hue as the face. The disease extended only to a point just above the wrist, on each hand, where it abruptly terminated. The general health of the child was otherwise good.

DR. WHITE pronounced the case a typical one, but not so rare as has been supposed. The disease is much more common here than in Europe, but the small size of the present patient makes this instance seem more than usually interesting. The girl, however, is thirteen years old, and after this age the appearance of this form of lupus is not so excessively rare. It is not frequently seen on the hands, but the co-existence of the same affection upon the face is very instructive as well as interesting.

The disease is essentially an inflammatory process, confined to the sebaceous follicles.

The Chairman announced that the Committee appointed from this Section some months ago to take into consideration the condition of the Water-supply of the City, would be invited to render a report at the next meeting of the Section, on May 12th. The committee has performed much labor, and the results to which their researches have led are different from what was expected.

The paper of the evening was by DR. CHARLES F. WITHINGTON of Roxbury, entitled

MILITARY DRILL AS A MEANS OF PHYSICAL TRAINING FOR BOYS.[1]

The paper was listened to with the closest attention by the large audience, and was a careful analysis of the effects of the bodily exercises comprised in the ordinary drill, upon the physical system of young and growing boys.

At the close of the paper the Chairman stated that the Section would be happy to hear from Gen. Hobart Moore, who has had a very extended connection with the military exercises included in the present school system of the city of Boston.

GENERAL MOORE stated that he had been connected with the instruction of boys in military tactics, ever since that exercise has been made a part of the school system. The drill was first introduced as an experiment, which was submitted to the judgment of a committee, composed in part of physicians of Boston, who have carefully watched its effects ever since that time, and have rendered a report upon this feature of our school system from time to time, with the reports of the other branches of school work. These reports have had reference to the effects of the drill, in its physical, as well as other aspects.

The following extracts from the official reports of that committee during a series of years may give an idea of their opinions upon this portion of the curriculum at those times.

In the year 1868 this committee writes:

"The drill, they are confident, is most beneficial in its effect upon the health and physical development of the pupils; so far as the three or four years' experience with military instruction in our High and Latin Schools will prove anything, the experiment is a success."

This report is signed by the following well-known physicians: J. Baxter Upham, Chairman, *pro tempore*, Calvin J. Page, S. A. Green, Ezra Palmer.

In the year 1872–3 the same committee writes:

"Your committee believe that the drill, as now carried on, proves to be not only the best system for physical exercise for these schools, but that, at the same time, it inculcates a more manly spirit in the boys, invigorates their intellects, and makes them more graceful and gentlemanly in their bearing. They are, also, of the opinion that the amount of time given to the drill does not take from, or interfere with, the ability of the pupils to accomplish their allotted quota of school work; on the contrary, they apply themselves more vigorously and easily to their task; and it has proved efficacious in producing orderly habits, as well as great physical improvement, and it is a most important aid in the general discipline of the schools. This is also the universal testimony of the teachers of the schools in which the drill is practised.

"Eminent English authorities assert that where military drill has been established it has been found to conduce to the discipline and order of the scholars as well as their physical development and improvement."

This report is signed by the following physicians: J. Baxter Upham, P. O'Meara Edson, Henry P. Shattuck, William Woods, Committee.

The following is an extract from Mr. Philbrick's Report to the School Board of Boston in 1874:

"To say nothing of the value of this instruction" (meaning the military drill) "as a means for the preservation of public order and for the national defence, as an educational instrumentality in promoting physical, moral, and intellectual culture, it has been signally beneficial. It has proved a valuable, though, perhaps, not a perfect, system of gymnastics; it has developed a more manly spirit in the boys, invigorated their intellects both directly and indirectly, and made them more graceful and gentlemanly in their bearing."

[1] See page 433 of the Journal.

The same committee writes as follows in the report of the school year 1875:

"The Military Drill has been carefully attended to by the Committee; and their unanimous belief is that the utility of the drill cannot be overestimated.

"Very many parents have attested to the great good and benefit that their boys have derived from it. The boy without careful training will naturally stoop and bend over his studies until he will become 'round shouldered,' sometimes almost to deformity. The drill has a tendency to correct this habit, which no other training will do as well. We trust that the drills will be kept up, believing that committees having them in charge will see that no form of gymnastics could be substituted from which the boys would derive such benefit."

Lucius Slade, Henry P. Shattuck, Geo. E. Filkins, Franklin Williams, Petatiah R. Tripp, A. K. Tilden, E. H. Darling, Committee.

S. M. Weston, Head-Master Roxbury High School, writes as follows:

"ROXBURY HIGH SCHOOL, NOV. 19, 1875.

MR. LUCIUS SLADE, *Chairman of Committee on Military Drill:*

DEAR SIR, — You wish my opinion as to the usefulness of the Military Drill. It is a healthy exercise and well suited to the ages of the pupils, develops and strengthens the system to a greater degree than walking or riding, and there is less liability to injury than in gymnastics. The use of the musket gives flexibility, firmness, muscular strength, and an erect position of the body. The company movements cultivate precision and freedom of motion. The boys generally appreciate and enjoy the drill, and it exerts a salutary influence on the happiness and government of the school. Many past members have spoken of the beneficial effects of the drill, and hoped the military element of education would be continued in the school."

Elbridge Smith, Head-Master, Dorchester High School, expresses his opinion of Military Drill in the following words:

"SIR,—The elements of Military Drill have been taught in the Dorchester High School for the past four years. There has been, in my opinion, no one exercise of the school more beneficial to the boys than this. It is quite common to speak of this exercise as a means of physical training merely. The fact is overlooked, or little thought of, that it furnishes a moral culture of scarcely less value than the bodily exercise which it affords. Highly as I prize it for its physical benefits, I should earnestly advocate its continuance in the school for the moral benefits which it confers. I am quite certain that the drill has had a part in humanizing, so to speak, the sports of the boys at school. We all know the roughness that characterizes the school playground, and that it has been no uncommon occurrence for a boy to be carried home with a broken limb or a dislocated joint from the foot-ball or base-ball contests. The Military Drill is not only entirely free from danger in itself, but, by giving the boy a freer use of his limbs, enables him to engage in his sports with far greater safety and success. In former years the playground furnished almost as many cases of unpleasant school discipline as the school-room. A great change has taken place in this respect. Boys are not less active, but they engage in their sports with far more regard for each other's rights and each other's safety. They are equally earnest, but they are more manly; they may even be rude, but they are no longer brutal.

"I do not believe that any money expended by the State yields so ample a return as that which is expended upon Military Drill in our High Schools. Hundreds go from these schools every year who are competent to drill a company, and in case of war would be found of more value than those who have been drilled in the militia.

"With proper accommodation I think there might be a short drill, say of ten or fifteen minutes, every day."

A. M. Gay, Master in the Latin School, writes that

"There are both advantages and disadvantages in the Military Drill, but he is clearly of the opinion that it is a very desirable feature in the school system."

E. P. Seaver, Head-Master of the English High School, expresses himself in the following words:

"ENGLISH HIGH SCHOOL, NOV. 19, 1875.

MR. LUCIUS SLADE:—

MY DEAR SIR,—To reply in one word, I will say that I think well of the drill, for several reasons, and that I am anxious to have it continued."

Gen. W. T. Sherman, writing of the Michigan Military Academy, employs the following language:

"The ordinary drill 'sets up' the boy, and makes a man of better figure, better physique, consequently prolonging his life and adding to the measure of his influence as a citizen. If arms are added, so much the better for the physique; and the skilled use of the rifle is not only an accomplishment, but may add to the security of his own life and those of his neighbors."

Gen. J. M. Schofield writes thus in regard to military instruction in schools:

"The dependence of this country upon militia of the several States as a national defence, and the interest of the States themselves, which depend so entirely upon their respective military organizations, point conclusively to the wisdom of fostering such education as will impart the greatest degree of efficiency to those organizations, as military bodies. But as important as are these considerations, I regard them even as secondary effects of such a system of education, the discipline in which must unquestionably best fit the youth for the primary duties of life — those of good citizens."

Extract from the Annual Report of the School Board of Boston for the year 1880:

"The Establishment of Military Drill is one of the few provisions made by the School Board for the physical training of the pupils under its charge; and no one who has observed the soldierly bearing of the members of our school battalion, can have any doubt of its value as a means of securing a full and symmetrical development of the physique.

Signed by Dr. John Moran, Chairman, Dr. Henry P. Bowditch, Abram E. Cutter.

The opinion of physicians of such high standing in the medical profession, *added* to the testimony of officers of so long a connection with the military service, leaves but little for me to say, except that my experience of twenty-five years, twenty-two of which have been in the public and private schools of Boston, compels me to coincide with their views to the fullest extent.

Many people are apt to form an opinion, without a knowledge of military drill as it is carried on in our schools.

In closing, let me say I will challenge any city in the Union to show better developed, healthier, or a more gentlemanly class of boys than those attending the High and Latin Schools of Boston.

PROF. DUDLEY A. SARGENT was introduced by the Chairman, and spoke as follows:—

The examination of young men in large numbers at Harvard College, and at the Young Men's Christian Union, gives me opportunity to make many observations on the conditions resulting from military drill during school life. My studies in this direction lead me to support the statements made by Dr. Withington that deformity, and especially lateral curvature of the spine, are often the results of the military drill. That this was the source of the trouble, was proved by the rapid improvement in their condition after a short period of exercise by means of appropriate movements; when the deformity often entirely disappeared. Special exercises are needed to combat the evil results of injudicious training in certain other forms of exercises. Unfortunately, no tracings were made, as there was, at that time, no fund available for the purpose of photography, but since that time, there has been an appropriation for the purpose of securing a photograph in three positions of each student examined. All deformities of the spine are not due to military drill; as the student may have had some injury, or may be deformed from other causes, as from walking to school and carrying his satchel of books always on one shoulder, or some other one-sided exercise. Slight lateral curvature is, however, the least harmful of the

accidents resulting from injudicious physical exercise. There is a sense of constriction across the chest, in the region of the pectorals, which often unfits the boy for anything in the way of vigorous exercise, and causes a lack of respiratory and circulatory power, which is a serious drawback to the physical health of the one affected. It is unfortunate that military drill should be held up and defended as a proper means for physical exercise. The moral effect is doubtless good, but the physical effect is thoroughly bad. The boy loses his individuality; and as the manual is made for execution by groups of four persons, each boy is cramped and restricted in his movements by the person on either side of him. Then all forms of physical exercise should be directed to the muscular system, as it is chiefly the muscles which are to be developed. In military drill, we have a class of movements which are directed especially to the joints, and not to the muscles. The drill is more a tetanic exercise than one for the development of the body, as its features consist, in a great measure, of rigid and unyielding positions, while every proper muscular exercise should be elastic in its movements. In all proper exercise, the weights used should be light, and should act by tension on the muscles, and not by tetanic spasm. The weight of the drill equipment is far too heavy for any boy. The drill is arranged for the largest and strongest boys, and the smaller and weaker are expected to adopt this standard and to carry it out. This is productive of many forms of bodily deformity, which may often be remedied by carefully-adjusted remedial exercises of the character to remove the damage thus produced, but the cure always consists of light, not of heavy exercises. The Boston experiment of military drill as a means of physical exercise cannot be compared with any other form or system, as there is none to compare it with, and none other has been tried here. In Great Britain, the military drill for enlisted soldiers is always preceded by a course in the gymnasium. Drill is never entered upon at once by the raw recruit.

Mr. W. C. Collar, of the Roxbury Latin School, was next called upon by the Chairman, and responded by saying that he had had a long experience in the exercise of boys by means of military drill, but his observations were made under unfavorable conditions. This experience may have been unfortunate, and his opinion of the importance of this form of exercise may have been warped by the conditions attending the system. The boys were always drilled with guns far too heavy for their strength, as they still are in the public schools, and the effect was not favorable either on the drill as a means of exercise, or on the boys as subjects. My opinion from these observations would certainly coincide with the views expressed by the writer of the paper, which formed the basis of this discussion. In a school of about one hundred and sixty boys, only about eighty have taken military drill. Of the other eighty pupils, a few, perhaps five or ten, are excused on account of having drilled during five years. Of the remainder, twenty are excused as too small to enter the drill. One-fourth, on the average, are excused on the presentation of certificates of physicians, forbidding the drill on account of observed or probable injury to the health, so that there is a large contingent of the schoolboys which is, for a variety of reasons, unfitted for the exercise of military drill. Another objection to the drill is found in the fact that it is a continuous exercise, without opportunity for needed rest and relaxation. It is no unusual thing to see boys evidently suffering from the weight of the gun which they are obliged to carry, and which is far too heavy for the shoulders of a growing schoolboy. The gun is often required to be carried for a long time in one position, and the muscles of the trunk are exhausted by the prolonged and uninterrupted strain of the forced and maintained position of the body, as well as by the unaccustomed and excessive weight which it is obliged to bear for a long period. I had in mind to say, perhaps I did not, that military drill is very defective as a physical exercise, on account of the limited range of muscular action required or permitted. As far as the moral influence is concerned, the speaker agrees entirely with General Moore and Professor Sargent. The moral aspect is the good side of military drill, and is the only good side it possesses as a means of exercise for schoolboys. Since the abolition of military drill in that school, not a parent has said a word to me in favor of its restoration as a part of the school system. As one instance of the dangers of the drill, as now carried out in the schools of Boston, may be instanced the case of two lads, brothers, who, after three years' drill, were excused from further exercise through the certificate of a physician, on account of spinal curvature in each boy.

Mr. R. F. Curtis, of the Chauncy Hall School, being introduced to the audience by the Chairman, stated that the exercise of military drill had been a feature of the Chauncy Hall for a much longer period than that of his connection with the school. Mr. Curtis has given the subject much thought, and has studied the effects of the drill on the pupils of this well-known institution, and has failed to notice that it is detrimental to the boys who practice it. Repeated investigation has shown that the boys themselves are strongly in favor of the drill, and would be sorry to have it abolished. We look for advantages in many other ways than purely that belonging to the exercises of the manual of arms. It is true that the drill develops a degree of promptitude and reliability which the boy would never acquire in any other way, but there are other qualities in the boy's character which are brought out by the discipline of the drill, which would never appear except for these systematic exercises. It seems impossible that so much harm can arise from this form of physical exercise as has been here ascribed to it, and one is led to the opinion that possibly we do not yet possess sufficient information of the results of the drill to form a correct judgment in regard to its power for harm, and do not realize the fact that in some of the cases in which the drill is accused of injuring the system, the boy would quite possibly have had a similar state of things had the drill never been practised at all. We have not, at present, sufficient data to enable us to come to a reliable conclusion as to the effects of the evolutions of the drill on the constitution of the boys. We do not derive so great an actual benefit from this form of exercise as is claimed by the military men; but, on the other hand, we do not see such an amount of harm from its use in the schools, as the paper of Dr. Withington would seem to represent.

Hon. Charles L. Flint was next called upon, and in speaking of the drill in its application to the school system of Boston, said that it certainly commended itself to his judgment as a proper and useful adjunct to the school course. The ease of control of the scholars, and the discipline of the schoolroom have been much improved

by it. All the teachers recognize its great value as an element of instruction. The manliness and personal physique of the pupils are positively increased by it, and the boys make a better appearance; but in certain cases, harm certainly may, and undoubtedly does arise. In all such cases the pupil should be excused. The number of those excused is very small in all classes. The dangers of the drill in actual practice would seem to be quite small, if our experience is to be looked upon as furnishing a criterion.

MR. MOSES MERRILL, Head-Master of the Boston Latin School, arose and said that during his connection with the schools of Boston, there have been numerous attacks upon this particular part of the school course. If there were positive harm from the drill, the system could hardly have survived these various attempts at its abolition.

Mr. Merrill added: "When it can be proved that the military drill, as now practised in the schools of Boston, is productive of injury, then I shall favor its abolition; but thus far, I have not been able to learn anything to convince me that this is so. I have heard nothing here to change my opinion of the effect of the drill as at present taught in the schools. I am rather surprised at the concessions which the paper of this evening contained, in favor of the moral advantages of the drill. As far as the drill goes, it is simply one branch of the school work. Cases are excused from any part of the school duties when this is necessary, and in the same way, pupils are excused from the drill, when, for any reason, this is considered necessary or advisable. No teacher would think of changing the entire school system because occasionally a pupil might require to be excused from a certain part of the curriculum. The time spent in military drill really refreshes the pupil, and is a recreation, from which the boys come back renewed and freshened, and are as bright as when they came to school in the morning. A well-known physician of Boston came to see me one day, and while in my office, General Moore came in. The two gentlemen had never met, and did not know each other. The physician, on being introduced to General Moore, thanked him for the benefit which his son had derived from the drill while in the school. He said that his son had improved in form and in strength under the drill, and hoped that this valuable exercise might be continued. The tendency is for boys to desire the drill, rather than to wish to be excused from it. No boy is allowed to join the drill until he is thirteen years old, but the boys are anxious to join before that time. If the pupil is to be thirteen in a few months, he is always anxious to join at the opening of the term, before he is really entitled to do so. The testimony of the boys themselves would be in favor of the continuance of the drill. This has often been satisfactorily demonstrated in the High and Latin schools.

At the request of Dr. J. G. Blake, the following letter was read by the Secretary:

BOSTON, APRIL 14, 1886.

MY DEAR SIR, — I give you my opinion of military drill as a school exercise willingly. As the drill is conducted in the public schools of Boston, I favor it. I believe it imparts to boys a kind of practical knowledge that every male citizen of the Commonwealth should possess. It helps materially in training boys to habits of obedience — obedience which is prompt, which is unquestioning, and which boys feel to be manly. The American boy runs no risk of being overtrained in this direction. Especially, the drill furnishes to boys a species of physical exercise that is simple, light, safe and agreeable. Boys almost invariably like the drill. In ninety-nine out of a hundred cases, none care to be excused from it except for physical disability. Some, even when physically disabled, would rather drill than not. I know of very many boys who have been greatly benefited, physically and otherwise, by the drill. I know of none who have been injured by it. I am unable to recall an instance of a boy who has asked to be excused from drill. I will not say permanently, but even temporarily, in consequence of an injury received at drill. Hardly a week passes, however, in which some one of the six hundred boys who drill in the English High School, is not excused from one, or more than one, drill exercise because of a sprain or other hurt sustained either when performing feats in a gymnasium or while playing at base-ball.

Military Drill was introduced into the Newton High School when I was principal of the school. I do not know that I was decidedly against it, I was certainly not decidediy for it. The reason that I was not for it, was not that I apprehended, with a venerable professor of ethics, that the drill would engender in the boys a sanguinary spirit, nor, with an enthusiastic professor of gymnastics, that it would not prove good physical exercise for them. The fact is, I was engaged in fitting boys for college, I wanted all, and more than all the time I had for that purpose. I grudged the two hours a week I should have to give up, if the drill were introduced. Introduced, however, it was; and in no long time I found, much to my surprise, that the boys were making as good progress in their studies, as before the drill was introduced. I might with truth even say that they were making greater progress than before it was introduced. On the whole, I like to have the drill discussed. The more it is discussed, the more clearly in my judgment, its merits as a school exercise will appear; and consequently, the better the people will like it, and the more tenaciously they will hold on to it.

Very truly yours,

FRANCIS A. WATERHOUSE,

Montgomery St. *Head Master, English High School.*

DR. J. B. MORAN, Instructor in Hygiene in the Public Schools of Boston, was next called upon by the Chairman, and responded as follows:

I think it is proper that physicians should discuss matters pertaining to the education of the young, and should make suggestions as to the best means of carrying out this great task, which shall be for the benefit of the pupils, and of the general public. The present question is whether the exercises comprised in military drill are of benefit to boys in school. With all deference to the unquestioned authority of Dr. Withington and Prof. Sargent on this point, it is yet early to form a definite opinion upon this topic. On the other hand, the reports of committees often contain statements which are misleading and represent only the sentiments of the individual who writes the report, which, out of courtesy, is adopted. Military drill has some very desirable features and its effects are in some ways most valuable. It is a great developer of the qualities of manliness and obedience and discipline, which will never be lost. There are occasionally cases in which the drill may be productive of harm, but the general effect is undoubtedly good. Cases are found in which some degree of curvature or other injury may be produced by the drill, but cases are also found in which curvature exists, but in which military drill has never been performed, or other violent or sustained exercise carried out. A further modification of the drill and reduction in the weight of the guns, seems to me desirable. While the physicians of Suffolk are debating the propriety of military drill for boys, it is to be hoped that the fact will not be forgotten that physical exercise is much neglected in our schools. It is one of the most important features in the whole scheme of the education of the young, and I trust the medical faculty will use their influence towards its recognition and establishment in the schools, in a thorough and systematic manner. We have an excellent room for gymnastics in the Latin School building, but an incomplete apparatus, and no competent instruction for the pupils. The whole duty of the school authorities and the best good of the children in our schools will

not be achieved until some provision is made for regular and proper exercise by the aid of intelligent and systematic instruction.

DR. E. H. BRADFORD was called upon by the Chairman, as the one who saw more cases of curvature than any other physician of the city, and was asked to give his opinion as to the effect of military exercise in the production of this injury. Dr. Bradford stated that the question before the meeting really consisted of a series of questions, such as, 1st, Is military drill a good form of exercise? 2d, Does military drill cause curvature? In reply to the first of these questions we must admit that general exercise is undoubtedly better than military drill as far as the schools are concerned. Is military drill injurious? We have too few statistics to serve as a basis for a correct opinion on this point; and one is obliged to look to the theoretical effect for a discision. Cases in which actual physical harm is caused by the exercises of the drill must be rare. Dr. Bradford has never seen a case of curvature which was thought to be caused by the practice of the drill movements. There is no reason to think that the weight of the arms borne by the boys during the drill could cause curvature, if carried only a short time. Such a weight could produce no harm if borne for five minutes. If borne for two or three hours it might cause curvature in a growing boy. There is a much greater and constantly acting cause of curvature which has not been alluded to by any of the speakers here, as affecting school children, and that is the *seats occupied by the scholars in our public schools.* This one element has a greater influence for harm in causing curvature or other deformity than the drill or any other form of exercise can possibly possess. The chief sufferers from this cause are girls rather than boys. The drill may be so employed as to be of great advantage to boys while they are students. In some German cities the "setting-up drill" is used as a curative measure in the treatment of spinal and other deformities. The changes which are indicated in our system are a lighter weight of the arm used, and the more extensive employment of the "setting-up drill." There is no good reason why the practice of the drill in its entirety should be abolished, but it may be judiciously modified.

DR. HOWARD M. BUCK thought that two years' experience of military drill as enforced in the English High School under the late Mr. Sherwin (1868), might qualify him to present the privates' view. At that time excuses were so little favored that the principal boasted that "the boys in this school must drill even if the smaller companies have to be armed with popguns." Unfortunately there were for them only the reduced army muskets, and the fourteen-year-old boys of the "popgun" company were drilled to their satisfaction by sixteen-year-old officers, veterans of two years greater growth and experience. That company held, of course, the largest share of the young and puny recruits, and for their short legs the stride taken comfortably by the taller companies was very trying. At that time, 1868, it was expected that one or more members of the "popgun" company would faint during the public parades.

He, Dr. Buck, did not know whether the accoutrements were now lighter, but the same exhaustion was seen in a milder form, in the street parade of 1885.

The vanity of parents and the ambition of precocious boys will always supply overgrown privates for the larger, and stunted ones for the smallest companies; the pride in their full ranks, of the teachers and officers, will retain them.

The value to the State of the drill is often limited by the obsolete type of arms supplied, and the distaste acquired for "playing soldiers" keeps a certain proportion of graduates from joining the militia.

In connection with its moral benefits should be considered the experience generally acquired in the second year of wire-pulling for the next year's offices.

DR. E. W. CUSHING said that the exercise of the drill is too great a strain on the physical system of a schoolboy; the exertion is too severe in character and too prolonged in duration. Dr. Cushing was one of the first class in the public schools to take up the drill system. Under the oversight of Dr. Algernon Coolidge the boys were trained in the exercise of the manual. It was nothing unusual then, and it is nothing unusual now, for boys to be prostrated by the severity and long-continued strain of the manœuvres of this exercise, especially when conducted in warm weather, or in close and heated halls. Dr. Cushing has himself been overcome by faintness in the exercise.

DR. WITHINGTON observed that the present question is not one of the moral effect of the drill, nor of its popularity with teachers or pupils. Nor is drill under consideration merely as one means of physical exercise, but as the *only form of physical culture* provided by the city of Boston for the benefit of its school children: while even this is applicable to but a very small portion of them. It is quite easy to believe that the boys join willingly in the drill, when the only alternative is to remain over their books.

With regard to the production of deformities, if there is a tendency to such a result, even though that tendency be in the majority of cases held in check, the system is faulty, and it may be doubted whether for the sake of disciplinary advantage we have a right to favor a system which in order that it may not produce actual physical harm, requires a degree of watchfulness that is not attainable for all boys. It is desirable that special attention be directed by medical men to possible participation of the drill, as one factor in the causation of spinal deviation in the youngest boys who carry these heavy muskets.

The speaker had written to two authorities on this subject, both of whom had kindly replied.

Dr. C. M. Hartwell, Associate in Physical Training in the Johns Hopkins University, gave his opinion as follows:

"Military drill, pure and simple, that is, the school of the soldier and the manual of arms, is not so desirable a form of physical training as gymnastic drill, provided the latter is given by a competent teacher, in a well furnished gymnasium and according to a progressive, graded and well developed system, such as the German system of *Schulturnen* seems to me to be. At the same time, I always considered the military drill a good thing for the boys of the Boston School Regiments, since so little chance was given most of them for genuine athletic sports or for gymnastics. If care is taken to prevent the use of too heavy muskets, military drill in public schools, where gymnastics are neglected so generally, or not more than half taught, seems to be a good exercise for the trunk and limbs. . . . I am inclined to think that for the present it is cheaper and easier to organize military than gymnastic drill in the higher schools for boys."

One of the senior medical officers of the army writes:

"In the corps of cadets I have never seen any asymmetry either of body or limbs produced by drills, either with or without the musket. The same is true of the enlisted men of the Army. The weight of the cadet musket is seven pounds, that of the regulation musket nine pounds. The cadet drill is supplemented by gymnastic exercises, in which every large muscle is brought into action; but I am sure that were this omitted, no

deviation from normal symmetry would be observed in the young men here, produced by their military exercise.

"At the same time, I am very willing to believe that in the case of young, growing boys, dumb bells or Indian clubs would be a far better means of exercise than the one-sided manœuvring with the musket."

DR. JOHN G. BLAKE asked if any system can be found which in its general application can be favorably compared with military drill as an exercise for the members of the public schools? Is there any other form of physical exercise which is of so much benefit in a general way, and is so free from accidents to life and limb as the exercise of military movements?

In reply, Dr. Withington said that if a system for physical culture were provided for all the boys and girls in the Grammar and High schools, say 30,000, there would doubtless at first be considerable expense in securing the requisite instruction, though the aggregate cost per capita, for a simple yet sufficiently effective apparatus, might be made less than for the drill. The 1,300 guns now owned by the city cost $6.50 apiece, while a set of apparatus consisting of a pair of wooden dumbbells and a wand could be bought at retail for $1.05. Allowing one set of such apparatus for five pupils, the total cost could be brought under $6,000, as against $8,500 for the guns, for there must be as many guns as there are boys who drill.

Dr. Blake said he has spent several years on the school board, and after much careful observation and close study, the exercise of military drill has impressed itself upon his mind as of great benefit to the boys. This opinion is still further strengthened by the great freedom of the drill from accidents or injuries. Dr. Blake has four sons in the public schools of Boston, who have taken the drill without injury. One of them fractured his arm while performing some exercise in the gymnasium. A short time ago the Secretary of this meeting and Dr. Blake were called to see a case in which the arm of a schoolboy was badly fractured while exercising in the gymnasium. A nephew of the Hon. Caleb Cushing was so unfortunate as to break his neck in the gymnasium. The son of Mr. Walsh, a most promising young man, only the other day was killed, by an accident while exercising in the gymnasium at Holy Cross College in Worcester. The Hemenway Gymnasium has its fair quota of accidents, as has every other gymnasium, and these are inseparably connected with the pursuit of general gymnastics. In military drill we have the fewest number of accidents which can be found associated with physical exercises.

DR. C. P. PUTNAM stated that he saw the calisthenic drill in a girl's school in Vienna, and was much pleased with the exercises there introduced, which had all the advantages of drill and none of its disadvantages; it comprised almost all the free exercises of the body, and was not productive of fatigue, and did what physical exercise should do, that is, *exercise* the body without exhausting it. This feature could be introduced here with profit to both boys and girls, in our public schools, and with very little expense.

DR. HENRY I. BOWDITCH rose and said that the present subject is one of the greatest importance, and should not be allowed to drop here. This meeting is one of the most interesting he has ever attended, and the matter is one which concerns the welfare of the entire school system of our city. Dr. Bowditch then made a motion that this meeting be continued to some future time, when the entire subject of the physical culture of our youth of both sexes may be taken up and treated in a more satisfactory manner than it is possible to do at this time. The entire evening should be appropriated to this topic, and he hoped that the public might be invited to be present and take part in the discussion of a subject in which the whole of the inhabitants are interested, that is, that in the physical welfare of their children.

DR. J. G. BLAKE seconded the motion of Dr. Bowditch, and it was unanimously carried.

The chairman instructed the Secretary to provide an occasion for the further discussion of the present subject, in accordance with the motion as passed by the Section.

Dr. Blake moved a vote of thanks to the officers of the Massachusetts Institute of Technology, who so generously extended the use of the hall of their building to the Section on this occasion, and who have at other times shown similar hospitality to our Society. The motion was seconded and carried unanimously.

Adjourned at 10.30 o'clock.

AMERICAN SURGICAL ASSOCIATION.[1]

ANNUAL SESSION AT WASHINGTON.

SECOND DAY. — THURSDAY, APRIL 29.— MORNING SESSION.

A CONSIDERATION OF THE BACTERIA OF SURGICAL DISEASES

By HAROLD C. ERNST, M.D., Jamaica Plain, Mass.

After an extended description of the various bacteria met with in wounds, chronic abscesses, erysipelas, and other surgical affections, and an account of numerous experiments on animals, with an exhibition of specimens in culture mediums and under the microscope, the author presented the following conclusions:

(1) The experiments conducted over so long a time with the successful inoculation at the end of that time, indicate very plainly the retention of pathogenic powers of these organisms indefinitely. (2) Their permanence of form is also well established. (3) In order to obtain either a modification of their pathognomic forms or of their morphological properties,—if this is possible at all, some different methods of investigation must be used than those which have hitherto been employed. (6) The probabilities indicate that work in this direction is not likely to be successful. (5) So far as the experiments go, they tend to show that no form of the suppurative process in man is unattended by bacteria, and that the inoculation in the lower animals of pure cultures of these bacteria is followed by more or less acute and extensive suppuration. (6) The above conclusion is supported by the evidence of all workers in this field of research. (7) That a number of different clinical phenomena may be produced by the same organism, all of these phenomena, however, coming under the general head of the inflammatory and suppurative processes. (8) That the difference in the results produced by the same micro-organisms in different individuals depends upon influences outside of the bacteria themselves. (9) That these differences are the result of differences in the amount of the infectious material received into the system and of the locality or lesions by which it gains

[1] Continued from page 423.

access, and also of variations in the individual condition, the personal equation being a very large factor in making up the sum of any results in bacteriological work.

DISCUSSION.

DR. S. W. GROSS. The observations made by Dr. Ernst confirm those made by other observers, showing very conclusively that the suppurative processes are dependent upon vegetable organisms. The most interesting part of the paper is that which relates to chronic suppuration. He has been, I think, the first to show that chronic suppuration is due to the same micrococci as the acute form.

DR. J. S. BILLINGS. A mere verbal statement of the difficulties which attend these experiments gives no definite idea of the difficulties encountered in this work. It is only by personal experience that they are learned. The methods now employed are much more satisfactory than those in use some twenty years ago. One of the difficulties in considering the probable relation between cause and effect in this work is that there seems to be no relation between the number of micrococci present and the effects produced. A second difficulty is that we are by no means sure of the specific differences between these various forms of microscopical organisms. As we cultivate bacteria in different media we find a change in their form; it is, perhaps, possible that they may gradually change by alteration of the medium of its chemical composition or of its temperature. In connection with this subject, a study of the chemical conditions under which these organisms exist is necessary. It is very desirable that the practical surgeon should have at his disposal the means of determining the presence of these organisms in any given case.

DR. N. SENN, of Milwaukee. I am in full accord with the conclusions of Dr. Ernst, and do not intend to criticise what he has said. I desire to say a few words in regards to the conditions which predispose to the action of germs introduced into the body. The object of the surgeon should be, in the first place, to prevent the introduction of these germs, and in the second place, to secure innocuity to the infection by preventing the occurrence of predisposing causes. The first predisposing condition is found in an unusual arrangement of the capillary circulation. This is well illustrated in osteo-myelitis. In this affection the germs are found in greatest abundance in those situations where the anatomical relations of the vessels predispose to engorgement and localization of the microbes; this is in the large vessels about the centres of ossification in the epiphyses of bones. The second predisposing influence is traumatism. The germs of osteomyelitis may be present in the body for a long time, and produce no effects until the occurrence of traumatism, as for instance a fracture, favors the localization of the microbes.

A STERILIZED ATMOSPHERE.

DR. DAVID PRINCE, of Jacksonville, Ill., exhibited a diagram and describes a form of room whereby a sterilized atmosphere could be secured for the patient by means of air treated with corrosive sublimate and forced through a tube opening immediately above the seat of operation.

The report of the committee appointed to consider the proposition for the organization of a

CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS

Offered at the meeting of Wednesday, by Dr. C. H. Mastin, was called for.

[An outline of the main points of this proposition was published in our editorial columns last week.]

Adopted. The President stated that he would name the committee to-morrow.

Adjourned.

AFTERNOON SESSION.

The first paper was by N. SENN, M.D., of Milwaukee, Wis., and was entitled

THE SURGERY OF THE PANCREAS AS BASED UPON EXPERIMENTS AND CLINICAL RESEARCHES.

The following conclusions were presented:

(1) Restoration of the continuity of the pancreatic duct does not take place after complete section of the pancreas. (2) Complete extirpation of the pancreas is invariably followed by death, produced either by the traumatism, or gangrene of the duodenum. (3) Partial excision of the pancreas for injury or disease is a feasible and justifiable surgical procedure. (4) Complete obstruction of the pancreatic duct, uncomplicated by pathological conditions of the parenchyma of the organ, never results in the formation of a cyst. (5) In simple obstruction of the pancreatic duct the pancreatic juice is removed by absorption. (6) Gradual atrophy of the pancreas from nutritive or degenerative changes of the secreting structures is not incompatible with health. (7) Physiological detachment of any portion of the pancreas is invariably followed by progressive degeneration of the glandular tissue. (8) Extravasation of pancreatic juice into the peritoneal cavity does not produce peritonitis. (9) Crushed or lacerated pancreatic tissue is removed by absorption, provided the site of operation remains aseptic. (10) Complete division of the pancreas by elastic constriction is never followed by restoration of interrupted anatomical continuities. (11) Limited detachment of the mesentery from the duodenum, as required in operations upon the pancreas, is not followed by gangrene of the bowel. (12) In all operations upon the head of the pancreas the physiological attachment of the peripheral portion of the gland should be maintained by preserving the integrity of the main pancreatic duct. (13) Partial excision of the splenic portion of the pancreas is indicated in cases of circumscribed abscess and malignant tumors, in all cases where the pathological product can be removed completely without danger of compromising pancreatic digestion or of inflicting additional injury upon important adjacent organs. (14) Ligation of the pancreas at the point or points of section should precede extirpation as a prophylactic measure against troublesome hæmorrhage and the extravasation of pancreatic juice into the peritoneal cavity. (15) The formation of external pancreatic fistula by abdominal section is indicated in the treatment of cyst, abscess, gangrene and hæmorrhage of the pancreas due to local causes. (16) Abdominal section and lumbar drainage is indicated in cases of abscess or gangrene of the pancreas where it is found impossible to establish an anterior abdominal fistula. (17) Thorough drainage is indicated in cases of abscess and gangrene of the pancreas with diffuse burrowing of pus in the retro-peritoneal space. (18) Removal of an impacted pancreatic calculus in the duodenal extremity of the duct of Wirsung by taxis or incision, and extraction

should be practiced in all cases where the common bile duct is compressed or obstructed by the calculus, and death is threatened by cholæmia. (19) In such cases, the principal source of danger, extravasation of bile into the peritoneal cavity should be avoided by preliminary aspiration of the dilated bile ducts, accurate closure of the visceral wound with fine silk sutures and absolute physiological rest of the organs of digestion during the time required in the healing of the visceral wound.

Remarks in discussion were made by Drs. Conner, Fenger and Parks.

Dr. Charles T. Parks, of Chicago, read a paper supplemental to his paper of last year, reporting two cases of cholecystotomy, both of which ended fatally.

Case I, was that of a woman who had suffered with gall stones for six years. The attacks of colic occurred as frequently as every week. Operation was decided upon. The gall bladder was found contracted, and reached with difficulty. Forty-three calculi were removed.

Case II, was that of Mrs. H., who for the past two years had suffered with attacks of pain lasting four or five days of each week. There were jaundice and other symptoms of obstruction of the flow of bile. There was enlargement of the liver. The operation showed that the gall bladder contained no calculi, but that the obstruction was caused by a body outside which seemed to be an encysted calculus pressing on the duct. The gall bladder could not be found. The patient died within twenty-four hours, and the post-mortem revealed the shrunken gall bladder with the induration which contained a gall stone, pressing on the duct.

DISCUSSION.

Dr. W. H. Carmalt, of New Haven. I wish to relate a case in the same line with those reported by Dr. Parks. The patient, a woman thirty-seven years of age, had suffered for several years with indefinite dragging sensations in the right hypochondriac region. This incapacitated her from performing her household duties. In 1883, she stated that she had been operated on in Berlin for floating kidney, and in evidence, showed a large scar in the lumbar region. She also stated that three weeks after operation, as a result of violent sneezing, the organ had become loosened. She came to me for the purpose of having the kidney removed. Examination showed the abdomen to be exceedingly pendulous. The tumor was rounded, and could be readily grasped between the fingers. It was very movable. It was decided, after keeping the woman under observation for some time, that the tumor should be removed. An incision was made just external to the rectus muscle over the tumor. When it was exposed, it was at once evident that it was not the kidney. Further examination showed it to be a dilated gall-bladder. An aspirator was introduced, and four ounces of inspissated mucus drawn off. The needle revealed the presence of a hard body. Manipulation brought the gall-stone up to the most accessible part of the bladder, and securing the gall-bladder by two ligatures, I opened it and removed a stone as large as the end of my thumb. Four other calculi were found. After thorough cleansing, the gall-bladder was closed with a continuous catgut suture. The wound in the peritoneum was closed in the same way. The muscles were united by interrupted silk sutures, and a continuous catgut suture was used for the incision in the skin. The patient recovered without difficulty, and is now able to attend to her duties, feeling better than for a long time.

A CASE SIMULATING, AND BELIEVED BY ALL CONSULTANTS TO BE ABDOMINAL PREGNANCY AT FULL TERM. LAPAROTOMY, CÆSARIAN SECTION, AND REMOVAL OF A LIVING CHILD WEIGHING SEVEN POUNDS.

By John S. Coleman, of Augusta.

In the absence of the author, the paper was read by the Secretary.

February 27, 1886, the writer was requested to see B. A., colored, primipara, twenty-four years old. The attending physician believed her to be the subject of extra-uterine pregnancy. She thought herself at the end of gestation, and for three days had suffered with pains, which were quieted by the administration of laudanum. The entire abdomen was greatly distended, particularly in the upper portion. Vaginal examination showed procidentia, the os projecting three inches beyond the labia. The os was sufficiently patulous to permit the entrance of the index finger. Rectal examination gave negative results. Palpation and auscultation showed the position of the fœtus to be dorso-anterior, and obliquely transverse. Placental souffle could not be heard. The abdomen was so large, and the fœtal heart-sounds so distinct, that the writer also concluded that the case was one of extra-uterine pregnancy. The patient was examined by a number of surgeons, who agreed in the diagnosis. The history and the symptoms indicated that the patient was at the full term of pregnancy, and it was decided that immediate surgical interference was imperative.

On March 3, the patient was operated upon. An incision six inches in length was made in the linea alba. The tumor exposed much resembled the pregnant uterus. The incision was extended above the umbilicus, and it was positively determined that the case was one of uterine pregnancy. The uterus was drawn forward, and its anterior wall cut through. He had not conceived it possible for the uterine tissue to be prolonged from the epigastrium to three inches beyond the vaginal notch. A vigorous female child, weighing seven or eight pounds, was removed. The hæmorrhage was not great. The placenta was removed without difficulty. The incision in the uterus was closed with deep and superficial catgut sutures. The peritoneum was closed with a continuous suture, and the abdominal wall with hair-lip pins and superficial sutures. Antiseptic precautions were adopted throughout the operation. Septicæmia developed, the patient living four days.

At the autopsy, there was found no decided injection of the peritoneum. Two moderate-sized clots were found on the peritoneum. This cavity contained nearly a quart of bloody serum. The uterus was one-half its former size, measuring, from fundus to os externum, twelve inches. The cervix measured six inches. The wound was found gaping throughout.

The author then gave an extended review of the literature of the subject, and related similar cases by various operators.

To the paper was appended a letter from Mr. Lawson Tait, endorsing the performance of abdominal section in the above case, and asserting his strong objections to operations looking to the breaking up of the fœtus. He thought that a preferable operation in the present

case would have been the Porro operation. This would probably have been successful, both as regards the mother and the child.

Adjourned.

FRIDAY.— THIRD DAY.— MORNING SESSION.

The first paper read was entitled

TRAUMATIC ANEURISM OF THE INTERNAL CAROTID ARTERY,

by T. F. PREWITT, of St. Louis.

The speaker first referred to those cases of spontaneous aneurism of the internal carotid artery which are found in literature and the frequency with which this lesion had been confounded with cynanche tonsillaris. He had been unable to find more than one reported case of traumatic aneurism of this artery. This was reported by Dr. William T. Briggs, of Nashville. The aneurism in that case followed a stab wound and was operated on successfully.

Dr. Prewitt then described the following case. E. J., colored, seventeen years of age, was shot by her husband early in January, 1885. The weapon used was a revolver carrying a No. 32 ball. The shot was fired at a distance of two feet and entered the cheek over the malar bone ranging backwards. There was profuse hæmorrhage at the wound of entrance, there was no wound of exit. The bleeding was controlled by compression. There was hæmorrhage from the ear at the time and this recurred on two or three occasions. For some time after the accident the patient stated that there was some hæmorrhage from the mouth and nose on rising in the morning. There was some swelling at the time, which gradually increased until April 2d, when she was seen by the speaker. It then projected into the pharyngeal cavity and rested against the uvula and extended externally from the anterior petrous position of the temporal bone to the hyoid bone. The swelling pulsated in every direction and gave thrill and bruit. Immediately after the accident there was paralysis of taste and of the right side of the tongue. This continued. Pressure upon the carotid artery arrested the pulsation in the tumor. There was no difference in the pulsation of the two temporal arteries, the pupils were equal, and responded normally to light. There was persistent headache with sounds in the ear which were increased by lying upon that side. The voice was greatly interfered with, owing to paralysis of the right vocal cord. The appetite was poor and the patient emaciated. She was unable to swallow solids, and fluids regurgitated when the attempt to swallow was made.

With this history and with these symptoms, it was decided that there was an aneurism of the internal carotid artery, and that the vessel had been wounded near the carotid foramen, for nowhere else are the artery and nerve in such intimate connection.

It was determined to ligate at once the common carotid artery. The usual incision was made and the dissection continued until the artery was exposed. A silk ligature was passed from behind forwards. The vessel was then lifted to be sure that the pulsation was arrested before the ligature was applied. Finding that it was, the vessel was then tied. The pulsation was at first arrested, but in a few minutes it could be again felt. In the absence of all precedent, it was concluded to extend the incision upwards in front of the tragus and determine the feasibility of opening the sac and tying the distal end. This was a forlorn hope, for the diagnosis was that the aneurism was seated just external to the carotid foramen. An incision was then made below the ear and extended upwards back of the ear. A cautious dissection revealed the fact that the sac filled all the space between the mastoid process behind and the condyles and ramus of the jaw in front. It extended to the base of the skull to which it was closely adherent. It was therefore impossible to reach the artery in that direction. Further attempts were abandoned, the wound was closed, a drainage tube inserted and an antiseptic dressing applied.

On the eighth day, there was some hæmorrhage from an opening near the angle of the jaw. This was repeated and she spat up some blood on the following day. Examination showed a little coagulum at the angle of the jaw which was removed, and the left forefinger thrust into the opening. No coagulum could be felt within the sac. The attempt to detect the entrance of the artery with the finger failed. In order to avoid the hæmorrhage which would follow the removal of the finger, the sac was stuffed with lint treated with iodoform ; this controlled the bleeding. The patient gradually became weaker and died on the twenty-fifth day after the operation, from exhaustion. Ten days after the sac was stuffed, epileptiform convulsions involving the facial muscles and the flexors of the forearm and hand appeared. These continued at intervals until her death.

The post-mortem showed the ball in the posterior part of the sac. The opening of the carotid artery was found close to the carotid foramen and seemed blocked up with clot. The blood vessels of the membrane of the brain were congested, particularly on the right side. The inferior petrosal and lateral sinuses were filled with thrombi up to the torcular herophili.

The differential diagnosis of aneurisms of the internal carotid artery from those of other arteries in this situation, was then considered. As regards operation in this case, compression and ligation were considered, but compression was rejected on account of the urgency of the symptoms. The patient was not a suitable one for this mode of treatment, being ignorant and irritable and unfitted to endure the annoyances of this method of treatment. Neither were skilled attendants available.

DISCUSSION.

DR. J. FORD THOMPSON, of Washington, had never seen a case of aneurism of the internal carotid artery, but thought that the diagnosis would not be especially difficult. The bulging of the swelling into the pharynx is characteristic. The case reported might be open to some criticism from the fact that the patient was submitted to a severe and dangerous operation, and yet nothing in the way of relief was accomplished. The case also goes to show the uselessness of ligation of the common carotid artery for the cure of aneurism of the internal corotid artery. It would perhaps have been better if the operation of Syme had been performed, or, if necessary, the suggestion of Guthrie might have been carried out, that is, to make a section of the ramus of the jaw, so as to afford more room for dissection. As this lesion is followed by certain death, it was his opinion that it is the duty of the surgeon to perform the old operation, cutting into the sac and ligating the vessel at both ends.

DR. WILLIAM T. BRIGGS, of Nashville, referred to

the case which he reported at a previous meeting of the association. It was that of a young man stabbed in the neck. Five weeks later the patient presented himself at the clinic with a swelling of the neck presenting all the evidences of aneurism. It was considered to be a small aneurism of one of the branches of the external carotid artery that could be readily reached and ligated. An opening large enough to permit the introduction of the finger was made, and it was at once found that the condition was more serious. The hæmorrhage was controlled by stuffing a sponge into the sac and the common carotid ligated. When the sponge was removed, the hæmorrhage was as free as before. The opening in the sac was then enlarged, the opening of the artery having been found and controlled by the finger. The vessel was then hooked up and a ligature applied above and below the sac. The patient recovered and is still living in perfect health. The speaker thought that in all cases where it was possible, the operation of Syme should be employed.

Dr. D. Hayes Agnew, of Philadelphia, remarked that three years ago a woman presented herself at the University Hospital with a tumor as large as an orange just beneath and behind the angle of the jaw. There was also a projection into the pharynx. This tumor had grown slowly for eight months, and was attributed to a blow on the side of the head. He considered it a case of aneurism of the internal carotid and ligated the common carotid above the omo-hyoid muscle. The pulsation was diminished, but it could still be felt. He then tied the superior thyroid and the lingual. This stopped all pulsation. The patient did well for two weeks, when pulsation again returned. Pressure on the carotid of the other side controlled the pulsation and a ligature was then applied to the primitive carotid of that side. During his absence from the city, ulceration took place and a gush of blood into the pharynx occurred. The resident stuffed the cavity, but the patient died eight days later apparently from septic poison. He had determined if hæmorrhage occurred to have laid the sac open and to have tied above and below. From the history of these cases he believed that in this condition the operation should be a formal one of section of the jaw with ligation above and below the sac.

Dr. A. Vanderveer, of Albany, reported the following case:

In December, 1882, a man forty-two years of age, a farmer, was sent to him with a swelling of the neck which was diagnosticated to be an aneurism of the internal carotid artery. It was attributed to forced motion of the head to one side which was required in a certain part of his work. It was decided to first try compression. This was faithfully carried out and at the end of six days the swelling was much diminished and the tumor in the pharynx seemed more solid. The patient then went to his home, but returned one month later, the previous condition having returned. Compression was again tried and at the end of five days there was a marked diminution in the size of the tumor. He then returned home and continued in apparently good health for four or five weeks, when he suddenly complained of a severe pain in his head and fell dead. An autopsy was made, but no satisfactory explanation of his death could be found. The physician was inclined to attribute it to apoplexy.

Dr. L. McLain Tiffany, of Baltimore, said that in the case reported by Dr. Prewitt, there was no room for a distal ligature. In this case, however, it might have been possible to apply a compress, pressing the artery against the base of the skull. We have a record of such a case in Guthrie's Commentaries. It is the case of E. Twitchell, of New Hampshire. A man had part of his neck blown away by a cannon shot, exposing the carotid artery. Ten days later, while the physician was in the house, the artery gave way. The hæmorrhage was controlled by the finger and a ligature applied below the opening. The hæmorrhage still continued. There was not room for a ligature on the distal portion of the vessel. The doctor made a graduated compress and pressed the artery against the base of the skull. The patient recovered.

The speaker had had one case in which he controlled hæmorrhage from the jugular vein by pressure made in this way. The patient was a child who had an abscess of the neck following scarlet fever, which opened the jugular vein. As a result of this, there was great swelling of the neck. The sac was laid open and the vein controlled by a compress making pressure against the vessel just external to the jugular foramen.

Dr. Prewitt agreed with those who had taken part in the discussion that the old operation was the proper one for traumatic aneurism where it is possible to apply it. In this case this could not be done. Dr. Thompson had said that it is useless to tie the common carotid artery for aneurism of the internal carotid artery. There are only two cases reported where the ligature was applied. In the case of Syme, death did not appear to be due to the operation. Compression has been alluded to, but we should not expect compression to succeed in a case where ligation failed. If the circumstances had been suitable, he would have tried compression, but the symptoms were too urgent to permit of this. Dr. Tiffany had suggested compression of the vessel at the carotid opening, but, believing as he did, that there was no artery outside of the skull, it would have been bold surgery to have laid open the sac and sought for the opening which could not be detected with the finger in the sac.

LIPOMA TESTIS, OR A LARGE ACCUMULATION OF FAT IN THE TUNICA VAGINALIS.

By Roswell Park, M.D., of Buffalo.

Lipomata of the spermatic cord are rare enough to always attract attention, but lipomata of the testicle are of such exceeding rarity that believing that I have had a case which deserves this designation, I desire to put it on record.

J. P., age forty, was first seen in September, 1885. For eighteen months the patient had noticed a slow but continuous enlargement of the right testicle. This was almost painless, but caused inconvenience by its weight. At this time the tumor had reached the size of a cocoanut.

Examination showed the scrotum to be filled with a large mass, the testicle being crowded into a small space at its upper part. This mass was solid, yet soft and not tender. Obscure fluctuation was noticed but no fluid was obtained upon explorative puncture. The patient's general appearance excluded all idea of malignancy. The scrotal integument moved with perfect freedom over the tumor.

On October 4th, the patient was operated on. A free incision through the tunica vaginalis revealed a mass

of densely packed fat which was slightly adherent, but was turned out without difficulty. On separating the lobular masses by the fingers, the right testicle was found not merely imbedded in its upper part but incorporated by apparently intimate tissue connection. It was supplied with blood both from the testis and from the cord. The cord seemed to pass for a distance of two inches through the mass before reaching the testicle. No evidence of past or present hernia could be found, the ring and canal being no larger than on the opposite side. Finding the fibrous trabeculæ and blood vessels radiating from the testicle to the fatty mass so numerous and distinct, it was decided to remove the whole *en masse*, which was done. The patient recovered without incident. After removal the mass weighed three pounds. It was not possible to decide the exact origin of the fatty growth, whether it had started from the cord or from the testicles.

The literature of this subject is very meagre, the author being able to find but three similar cases on record. Kimball [2] and Jobert [3] report authentic cases. Deguise [4] also reports a case in which the tumor was as large as an adult head, and had been growing for twelve years.

Numerous authors state that lipoma of the cord may extend downward and spread over the testicle, and it is possible that this case may have begun in this way, but there was nothing to indicate such an origin.

The rarity of the lesion coupled its pathological interest, and the obscurity which attends the diagnosis was the author's reason for reporting the case to the Association.

DR. PARK also read a paper entitled,

NEPHRECTOMY ON A PATIENT TWENTY-THREE MONTHS OLD.

B. B., born October 4, 1883, appeared at birth to be perfectly healthy. During the following winter the nurse noticed an enlargement in the right side of the abdomen and the attention of the attending physician was called to it.

July 31, 1885, the attention of the writer was called to the child who appeared to be perfectly healthy. There was a history of steady enlargement of the growth. The bladder was examined with the sound, but no evidence of calculus found. The urine contained numerous crystals of triple phosphates, otherwise normal. Examination of the abdomen revealed a firm resisting tumor about the size and shape of the fœtal head at term occupying the right half of the abdominal cavity. A portion of the fluid was removed and examined with negative results. The diagnosis was fibro-cystic tumor of the right kidney, probably of congenital origin. Five weeks later the tumor was found to have increased decidedly in size, and operation was decided upon.

The operation was performed September 15, 1885. An incision was made in the right semi-lunaris. Slight adhesions were found. The peritoneum covering the growth was incised and the tumor shelled out without much difficulty. The pedicle was tied and dropped into the abdominal cavity. On the twelfth day the patient was removed to his home and now, seven months after operation, is perfectly well. The tumor proved to be a fibro-cystic tumor of the right kidney, the cystic element predominating. Immediately after removal it weighed four pounds.

In searching the literature of this subject, the writer had been able to find but three cases in which the age of the patient approximated that of the one now reported. These cases were respectively: one, two and one-fourth years, recovered: one, two and one-half years, died, and one at eleven months, died. The case reported, therefore, appears to be the youngest who has survived nephrectomy, he being twenty-three months old at the time of operation. The abdominal incision in this case was made not from choice but from necessity, the tumor being altogether too large for extraction through a small opening in the lumbar region.

DISCUSSION.

DR. MCLANE TIFFANY, Baltimore, said that fibro-cyst of the kidney in the child is almost always congenital and is frequently accompanied by lack of development in other parts of the body. It seems that in these cases the malphigian capsules which form the cyst do not unite with the pelvis, and as a result such kidneys never secrete urine. Urea, he thought was always found in the fluid from such a cyst.

DR. W. W. KEEN of Philadelphia then read a paper on

STRETCHING OF THE FACIAL NERVE.

He first related a recent case in which he had done the operation, and added a table of twenty-one cases so far reported.

His own case was that of a woman aged forty-eight years. She was admitted to the Woman's Hospital, April 1, 1886. She had had severe attacks of nervous trouble in early childhood, and had twice been paralyzed. Five years ago coincident with menstrual disturbances, her right eyelids began to twitch, and in six months the whole face and the platysma were incessantly in spasm, which was increased by mental or muscular effort, such as eating, speaking or being spoken to; later this was accompanied with constant pain.

In June, 1884, the right infra-orbital had been resected with partial relief for only six weeks. Not long after the twitching extended to the right side and leg.

April 2, Dr. Keen cut down on the seventh nerve by an incision (Baum's) behind the right ear, displacing the parotid gland forwards and getting access to the nerve just after its exit from the stylo-mastoid foramen. Imbedded in connective tissue, it requires considerable search and dissection to lay bare the nerve in this case. The exact point of its entrance into the parotid was quickly discovered by a very weak current of electricity, one electrode being placed on the cheek and the other, consisting simply of the wire, being touched at successive points from above downwards. The trunk was then laid bare and stretched, the force being estimated at four or five pounds, just short of lifting the entire head.

Total facial palsy followed, with relief not only from the spasms in the face and neck, but also of that in the side and leg. The wound healed in four days, when the sutures were removed, the highest temperature having been 100.4°. The operation was done twenty-five days ago, and so far there has been no return of the spasms.

DR. G. B. MASSEY had examined the case electrically and found the reactions of degeneration; the later history of the case will be reported subsequently.

[2] Boston Medical and Surgical Journal.
[3] Gaz. Med. de Paris, 1850.
[4] Ann. de la Soc. de Chir., ix.

Next a table of the other twenty cases so far reported since Baum, in 1878, first stretched the facial nerve, was given, with remarks on the operation. The paralysis always disappears, no matter how severely the nerve had been stretched, and while the spasms often return they are lessened in severity. In fourteen of the cases, the spasms recurred within a week, in three cases. In five others, absolute relief extended over three weeks to five months, the improvement in four of them lasting much longer. In the remaining six cases the relief extended from four months to a year with improvement still existing in three of them. As a palliative operation, therefore, it would seem to be indicated, while of the five cases reported cured, two had continued three months, three had remained well for from two and a half to five years. Two of the twenty-one cases were too recently reported to give the final results.

The speaker preferred Baum's method of operating decidedly to Heuter's, in which the nerve is reached through the parotid gland. He bandages the lower jaw and gives liquid food for three or four days in order to keep the parts quiet while healing.

He called attention to two cases in which a palsy existing prior to the operation was benefited by the nerve stretching, both electrical and voluntary control being obtained to some extent, and he suggested that in persistent facial palsy, stretching of the facial nerve be tried as a therapeutic operation.

(To be continued.)

THIRTY-SEVENTH ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION, MAY 4TH, 5TH, 6TH, 7TH.[1]

FOURTH DAY'S PROCEEDINGS. — GENERAL SESSION.

THE session was opened with prayer at 10 o'clock, A. M. Gen. W. T. Sherman, U. S. A., who was present, was invited to the platform, and made a brief congratulatory address before taking his seat.

The Nominating Committee reported the following as officers of the new Section upon Medical Jurisprudence: J. N. Quinby, M.D., of Jersey City, Chairman; and H. H. Kimble, M.D., of Minnesota, Secretary.

The Trustees of the Association Journal reported that the Journal had been issued regularly each week, and that its mailing list had increased by two hundred and fifty-one during its past year. A report from the Editor was included in the report, which showed that, owing to purchase of type, and printing the Journal in its own office, a saving of over seven hundred dollars had been made in the annual expenditure. At the earnest solicitation of the Board of Trustees, Dr. Davis has consented to serve as editor for another year, and they accordingly have re-elected him.

The Judicial Council presented its report by J. M. Toner, M.D. With regard to the Tri-States Medical Society, the Council decided that, inasmuch as the Constitution of the Association declares that this body shall be made up of representatives of State and County societies, the Tri-States Society cannot be allowed the privilege of sending delegates.

In the matter of the protest against the admission of delegates from the Davidson County Medical Society, the Tennessee State Medical Society, the Mississippi Valley Association, it was decided that sufficient evidence had not been presented to warrant such refusal. The credentials of the delegates from the Philadelphia County Medical Society were rejected, on account of irregularity in the manner in which they were elected, and it was recommended that their registration fees be returned to them, and that the papers in reference to this subject be referred to the Philadelphia County Medical Society for further consideration.

DR. JACKSON, of Philadelphia, asked for a ruling of the Chair as to the status of those members from Philadelphia who had already registered.

The President replied that the Judicial Council had just decided that they had no status, and could not be admitted.

Dr. Jackson pressed his question, but was declared out of order.

The Chairman of the Section of Ophthalmology, Otology, and Laryngology, DR. EUGENE SMITH of Michigan then read his address upon advances in these departments during the year.

After considering the therapeutic application of cocaine, and accidents following its use, he recommended the employment of one or two per cent.-solutions, as the most efficient and safe. Blepharoplasty, the genesis of sympathetic ophthalmia (in which he recognized a morbid condition of the optic nerve, as well as of its sheath), and the rare occurrence of corneal sloughing after cataract extraction, owing to improved technique, cleanliness and antiseptics were the subjects specially considered under ophthalmology. In the department of ear diseases, cocaine in two to four per cent.-solution is often of great service in painful conditions. He did not advocate the exclusive employment of the dry method in treating cases of suppurative otitis media; it is valuable in some, though not in all cases. The relations existing between certain nervous disorders and morbid states of the upper air-passages were referred to, and the necessity of recognizing the reflex irritation set up by nasal hypertrophies and pharyngeal disorders insisted upon. Turning to disease of the throat, he referred to the ingenious instruments which have been invented in this department, and the comparative value of the actual cautery over the wire snare. From intubation of the larynx, as a substitute for tracheotomy, perfectly marvellous results have been reported. In many cases, it is an efficient substitute.

In conclusion, he offered a suggestion as to the order of proceedings of the Association. The principal object of the meeting is to have subjects discussed in such a way as to disseminate the best principles of treatment. As it has been hitherto, papers are prepared to be read in certain sections, where the audience largely consists of specialists in certain departments. Consequently, the papers are too technical for the practitioner. The change that he would recommend would be to have on the programme a place for one or two papers, and discussions upon subjects of general interest, such as "ophthalmia neonatorum," in which all would be interested. In conclusion, he congratulated his hearers upon the valuable contributions recently made in this department of medicine by American authors. Should all other sources of supply be closed, the students would be sufficiently equipped with American text-books for the practice of all specialties in medicine.

The Chairman of the Section on Diseases of Children, DR. W. D. HAGGARD, of Tennessee, read his address by title. It was a "Plea for the Better Recog-

[1] Continued from page 431. Previous report by telegraph.

nition of the Importance of the Study of Diseases of Children."

The Chairman of the Section in Oral and Dental Surgery also read his address by title.

The Report of the Committee on Necrology was not presented, as it was published in the Journal during the year.

The Section on State Medicine reported the election of Dr. George H. Rohé, Baltimore, Md., Chairman; and W. Wyman, U. S. N., Secretary. With reference to cremation, the Section offered the following resolution: Resolved, that a Committee of this Section be appointed to further consider the subject of cremation, with instructions to report their conclusions to the Association at its next meeting.

In the matter of Dr. Rauch's proposed law, it was resolved that a Committee be appointed to frame a law regulating the practice of medicine, to be recommended by this Association for adoption by States which have not as yet similar laws in operation; also to report at the next meeting. The report was adopted.

Notice was given of an amendment constituting a new Section on Dermatology and Syphilis.

On motion, it was resolved that at the next meeting, the Report of the Committee on Publication shall be received on the first day, and be entered upon the programme as part of the first day's proceedings.

DR. ROBERTS presented a series of resolutions as Acting Chairman of the delegates from Philadelphia. The President decided that the language of the resolutions contained a reflection upon the Association and Judicial Council, and were out of order. On motion, they were laid on the table.

The Committee upon Changes in the Constituent Societies and Branches of this Association recommended that a Committee be appointed, consisting of the ex-President and President-elect, five Vice-Presidents, and Drs. N. S. Davis and J. M. Toner, to report at the next meeting of the Association. Adopted.

The President announced a number of delegates to foreign societies. *British Medical Association*, N. S. Davis, Chicago, Ill.; W. T. Briggs, Nashville, Tenn.; Wm. H. Pancoast, Philadelphia, Pa.; S. C. Gordon, Portland, Me.; John V. Shoemaker, Phila.; E. Cutler, New York; Eugene Smith, Detroit, Mich.; W. W. Dawson, Cincinnati, Ohio; W. McLean, Ann Arbor, Mich.; B. A. Watson, Jersey City, N. J.; William Brodie, Detroit; Liston Montgomery, Chicago. *Ontario Medical Society*, H. O. Walker; *Canada Medical Society*, William Brodie.

DR. MCGASTON, of Mobile, offered a series of resolutions referring to the claims of Domingo Freire and Dr. Carmona to having discovered a means of preventing yellow fever by inoculation, and urging each member of the Association to exert his influence towards having a Commission appointed by Congress to investigate these claims as to the protective inoculation against yellow fever. Adopted unanimously.

Dr. John B. Roberts tendered his resignation as Chairman of the Section on Anatomy. It was, on motion, accepted, and the retiring Chairman of the Section authorized to fill the vacancy.

The usual vote of thanks to the profession and citizens of St. Louis, was passed by a rising vote.

The newly-elected President, Dr. Gregory, was led to the chair by Drs. McPhaeters and Porter, and after brief addresses by the retiring President and the President-elect, the meeting adjourned.

Medical and Surgical Journal.

THURSDAY, MAY 13, 1886.

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THE INFECTION OF MALARIAL FEVER.

DURING the past few years, Professor Machiafava and Dr. Celli[1] have made yearly investigations as to the cause of the malarial fever so prevalent in the neighborhood of Rome. They have already made two preliminary reports, the statements of which have been confirmed by the experience of the last summer, and further facts have been collected.

In 1883, they stated that in melanæmia, which forms a characteristic dyscrasia in malaria, pigment was formed in the interior of homogeneous masses in the circulating blood, especially in the red blood-corpuscles. These masses could be colored by certain aniline dyes (methyl-blue and vesuvin), and were considered to be of a parasitic nature. Later, it was found that these fresh red corpuscles contained little bodies within themselves, which were endowed with a lively amœboid movement, and which also could be stained as above. Further, in a very few cases, the pigmented forms were seen to be provided with cilia. Breaking up of these bodies into minuter ones was also observed. Finally, experiment proved that the fever could be communicated by the injection of blood. This was not only made certain by the typical course of the disease and the specific action of quinine, but also by the presence of these little masses within the red corpuscles, and the presence of black pigment within the white.

The bodies above mentioned consist of small, homogeneous clumps of protoplasm (hyaloplasm), varying in size from one-tenth to one-third or more of the diameter of a red corpuscle. They have an extremely rapid amœboid movement, changing their form and assuming the most peculiar shapes. They are seen to stretch out finely-glancing, often branched, arms, which oscillate and are then withdrawn, to be thrust out anew from the same or other points. When they cease their motion they assume a circular shape, and appear like dark stains, which gradually become more distinct as they grow smaller. In this state of "rest," they have the form of a biconcave lens. Before they are entirely quiet, they often make a series of contractions

[1] Fortschritte der Medecin., 1886, page 787.

and expansions, or a few slow, amœboid movements are noticed. This happens when the preparation is irrigated with water warmed to 42°–43° C. Even bodies which have come to rest can be again stimulated in this way, and slow movements can be rendered quicker.

The bodies retain their mobility for different lengths of time, at the ordinary temperature. The extreme was five hours, the general average being from twenty to thirty minutes. The activity also varied greatly.

They lie entirely within the protoplasm of the corpuscles, as is shown by their arms never extending beyond their boundaries; they seem to swim in the substance, and can be seen to turn over. It must be added, however, that they project at times, as if in the act of leaving or entering, but in this case, they are always immovable.

They can be colored by treating a dried film of blood on a cover-glass with a saturated alcoholic solution of methyl blue. They appear then either uniformly colored, or as a blue ring with a serpentine outline, in which are intensely-colored points. A double staining has succeeded, by first staining with a saturated alcoholic solution of safranin, when the blood-corpuscles are stained rose-color, and then afterward using blue, as above.

They are much more difficult of detection in fresh blood. The film should be exceedingly thin, the corpuscles must not be shrunken, and must be separated from each other; moreover, very high powers of the microscope have to be used. In this way, the authors have convinced themselves that they are never wanting in the fresh blood in recent malarial affections. Their number varies in the different cases. At times, they are very numerous in a single field; at other times, many must be searched through before one is discovered. Either these bodies are found alone, or else they are associated with those containing pigment. These latter are, however, as a rule, less abundant.

From what has been said, these bodies are entirely distinct from any accidental or pathological substance which has hitherto been noticed in the red blood-corpuscles. They are therefore regarded as of parasitic nature, and the name of *plasmodium malariæ* has been adopted for them. They are most numerous just before or at the beginning of an attack, in this respect resembling the *spirillum* of relapsing fever.

A number of typical cases are recorded, in all of which these plasmoids were found, and they alone. And in these cases, they were found in great numbers before and during an attack, while afterwards, or after the exhibition of quinine, only a very few were found and those without motion, or else they were entirely wanting.

As a rule, the corpuscles which contain the plasmoids have a normal aspect, and preserve their elasticity. But occasionally they are smaller, puckered, and of a dark yellow color, or else they have a clear, dark contour. The plasmoids, too, often show in their interior, granules of black or reddish-black pigment. These can come out of the blood-corpuscles and become free in the blood, or the cells can gradually disappear with the increase of size of the plasmoids, and in this way, those lost apparently become free. The pigment is derived from the coloring matter of the blood, and there has been a direct observation of the gradual change from the color of hæmoglobin into black particles.

The pigmented plasmoids can also be colored and preserved in balsam. Then they show either a regular staining, or else interspersed with clear spots (vacuoles), while the pigment is either irregularly distributed, or heaped into balls in the interior or on the peripheries of the vacuoles.

When there are found one or more of these pigmented plasmoids within the red corpuscles, there are frequently seen a varying number of more or less intensely-colored round points, which closely resemble large micrococci. These are suspected of being the initial stage of the larger parasites, but further investigation is needed on this point. The forms, on the other hand, which have been found provided with cilia, are regarded as being the latest stage in their development.

A manner of division has also been recognized in them, in which the pigment gradually accumulates at the central part, and the body splits up into smaller ones. This can occur before they have consumed the entire corpuscle; then its remnant is observed as a colored outline of hæmoglobin about the dividing body. This is believed to represent the method of increase, and to explain its vital processes in the human body. After these pigmented forms have divided, there is found a stage in which numerous unpigmented plasmoids are present. This idea of the method of increase is still further strengthened by the condition found in the bloodvessels after death.

If sections from the hyperæmic organs, especially the brain, are colored with a watery solution of vesuvin, the cells are found to be entirely occupied by the colorless forms. These are, at times, granular, and at times consist of two parts, one taking color very faintly, the other intensely, and assuming the shape of a ring, or of a half-circle lying on the periphery. In addition, there are found groups of deeply-stained granules, which have arisen from division. Thus all stages are represented. Division commences in the intensely-colored spots, and progresses until aggregations of granules are formed, which are gradually seen to separate one from the other, until they appear as if falling apart. These are round, oval, or pear-shaped, and sometimes are regularly distributed about a small, central, colored point. So it seems that pigmentation is not an essential step previous to division.

If these bodies are true parasites, they must belong to the simplest class of protozoa, which Heckel has named moneres. That such can have a parasitic action, has been shown in certain plants; and in one, there is an accumulation of pigment, as in malarial fever.

The actual existence of such bodies is still further proved by their independent discovery by a French-

man, Laveran, who preceded the Italians in point of time, but who has not worked them up as carefully as they have, and who, we believe, observed only the pigmented forms. As yet their pure culture outside of the body has not been effected, nor their natural source discovered. These details are awaiting future investigations.

Celli is, we understand, an assistant of Tommasi-Crudeli in his laboratory at Rome, and both he and his colleague have had every facility for pursuing their investigations. Their results seem to offer real ground for hope that the veil may shortly be torn away from the malaria-mystery, a hope which we allow ourselves to believe may be realized, notwithstanding the warning disappointments following previous announcements by Salisbury, by Tommasi-Crudeli himself, with Klebs, and by so many others.

THE ADMISSION OF WOMEN TO THE OPERATING THEATRES OF GENERAL HOSPITALS.

THE recent ill-advised and persistent attempts of some young female medical students to occupy places in the public operating room of the Boston City Hospital has brought the question of the propriety and desirability of permitting the presence of women at that place on the so-called public operating days, before the Trustees of that Institution. At present the rules provide only for the attendance of men, and it seems to have been quite difficult to persuade these young women of the propriety of observing the rules as they exist.

A similar question is, we believe, at the present moment, under advisement by the Trustees of the Massachusetts General Hospital, and of the New York Hospital, and we understand that the surgeons attached to the former hospital have unanimously recommended that permission for the attendance of women upon operating days be not granted.

There are several points of view from which this question should be regarded, and the decision should, naturally, not be a hasty one. The claims which women may have in common with men, as students, and the importance of their obtaining sound surgical instruction, if they receive any at all, are points which are pretty sure to receive due consideration. We desire, therefore, to direct attention to one or two aspects of the question which are, perhaps, more apt to be overlooked.

The giving of surgical instruction is by no means obligatory upon the attending surgeons of our hospitals, neither is the furnishing of object lessons for instruction in surgery obligatory upon the patients who are called upon to submit to operations. It may be,— and in the opinion of some of our more advanced friends probably is — that both surgeons and patients are laboring under a false delicacy, nurtured by the prejudices of an unenlightened past, from which a less narrow future will in time enable them to free themselves. But it is a fact that, at present, both surgeons and patients,— male and female — object to operations upon certain portions of the body before a large number of spectators of both sexes. Operations upon the genito-urinary apparatus of the female are not as a rule performed in our public hospitals before classes of students upon the regular operating days. The same exemption from making an exhibition of themselves, is and will continue to be claimed by male patients, especially when the female spectators are armed with opera glasses; and from an anatomical standpoint with even more reason, as the male is endowed with *external* genitals which the female practically is not.

Such operations might, it is true, be done at a different time or place, but such an arrangement would waste the time of the surgeons, who already do much gratuitous work; of the assistants; of the attendants; and of the students themselves. The genito-urinary surgery of the male is one of the most important departments of surgery for the male student to familiarize himself with, and any arrangement by which male students were deprived of opportunities for such familiarity would, we fear, be attended by a greater loss than gain to the practice of surgery and the welfare of the public in the rôle of patient.

We doubt not that our hospital trustees before whom this question comes, will give it careful thought, and be guided to wise decisions.

THE ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION.

THE recent meeting of the American Medical Association was harmonious and peaceful. The West and Southwest have every reason to be gratified by the elections and appointments; St. Louis and Chicago seem to have divided the honors of the offices in the Association and the organization of the proposed International Congress.

Our readers can judge of the meeting for themselves from the accounts which have been published; the medical discussions in the Sections were certainly not the most interesting or important part of the proceedings. "The malcontents of New York and Philadelphia," to say nothing of members of the profession in less metropolitan Eastern centres, "have been rebuked."

The passage of a resolution to appeal to Congress for aid in meeting the expenses of the International entertainment indicates that, though on pleasure bent, the present Executive Committee, representing the Association or not as it may prefer, has a frugal mind. Any such appeal, it seems to us, will be regarded as coming with peculiarly bad grace, either directly or indirectly, from an assemblage of men, which if it is insisting upon anything is insisting upon the principle that the International Organization is the American Medical Association. If that Association is to manage the proposed gathering in its own exclusive interest it should at least pay the incidental expenses, and not assess the general taxpayer of the country at large.

We imagine such a proposition will not prove extensively acceptable.

MEDICAL NOTES.

— Sir William Jenner has been elected for the sixth time president of the Royal College of Physicians and Surgeons of London.

— The St. Louis daily papers improved the occasion of the meeting of the American Medical Association for a goodly display of journalistic enterprise. Cuts of various gentlemen of greater or less prominence were published and the various types of manly beauty in the great West were very liberally represented. The opportunities of the ball were also met with the true Jenkinsian fervor, and some seven or eight columns of the *Globe Democrat* chronicle what was worn by various "Mrs. Drs." and their daughters.

— At the annual meeting of the Essex North District Medical Society which was held at the Essex House in Lawrence last week, among the officers elected for the ensuing year were the following: President, Dr. E. P. Hurd, Newburyport; Vice-President, Dr. C. G. Carleton, Lawrence; Secretary and Treasurer, Dr. George W. Snow, Newburyport; Corresponding Secretary, Dr. M. D. Clarke, Haverhill; Commissioner of Trials, Dr. F. A. Howe, Newburyport; Councillors, Drs. H. M. Chase, R. B. Root, C. H. Johnson, C. N. Chamberlain, L. A. Woodbury, George Montgomery, F. H. Allen, F. A. Howe, H. M. Cushing; Censors, Drs. J. Crowell, F. B. Flanders, J. F. Young, R. C. Huse, A. F. Shea.

BOSTON.

— The eighteenth annual Commencement of the Massachusetts College of Pharmacy was held on the evening of the 15th inst. Twenty young men received the degree of Ph. G.

— There have been some scenes in the operating room of the City Hospital, during the last few weeks, which were not calculated to inspire the beholder with chivalric sentiments towards the female sex, as represented among the students of one of the medical schools of the city. In defiance of the distinct rules of the trustees regarding admission to the operations, certain women have repeatedly forced themselves into the seats, even during the performance of private operations upon the private parts of private male patients, so that the operator was obliged to remove his patient to another room. This course was continued even pending action by the trustees of the hospital on demands of the petitioners.

— At the annual meeting of the Boston Medical Association, held May 3d, the following officers were elected: Standing Committee, Drs. F. Minot, C. D. Homans, B. Brown, J. C. Warren and C. P. Putnam; Secretary and Treasurer, W. D. Hodges. This society, one of the oldest medical associations in this city, was founded in 1806, and has for its objects the regulation of the medical police of the city, and the establishing of a Fee Table. Its membership consists of medical practitioners in this city, with whom the Fellows of the Massachusetts Medical Society may lawfully hold consultation.

The Code of Medical Ethics adopted by the society, is the foundation of the one governing all regular practitioners established in the city. The Fee Table, modified from time to time, as the cost of living increases, is the standard, according to which charges are generally made throughout the city. Any regular physician may become a member by applying to the secretary, Dr. W. D. Hodges, 220 Clarendon Street, between 1.30 and 3 P.M., paying one dollar, and signing the constitution.

NEW YORK.

The annual Commencement of the College of Physicians and Surgeons will be held at Steinway Hall, May 13th; when the address to the graduating class will be delivered by Gen. Horace Porter.

— Mrs. Leland Sanford, wife of the millionaire Senator from California, has purchased a piece of land on Washington Avenue, Albany, adjoining the site of the old Lathrop mansion, and it is stated that on the whole property she will erect a handsome and well-appointed hospital for old men and women, as a memorial of her parents.

— The graduating exercises of the training school for nurses of the Mount Sinai Hospital were held at the Home connected with that institution on Wednesday evening, May 5th. Two handsome brownstone houses on Lexington Avenue, near the hospital, have been converted into the Nurses' Home. This is the fourth year of the Mount Sinai training school, and on the present occasion there were fifteen graduates; to whom an address was delivered by Dr. Paul F. Mundé. The Hornthal medal for general excellence was presented to Miss M. J. Leary, and the prize for the best essay, to Miss A. L. Alston, of the graduating class.

— In the course of his oration on the occasion of the laying of the corner-stone of the new buildings of the College of Physicians and Surgeons, a ceremony which was performed by Mr. George W. Vanderbilt, youngest son of the deceased millionaire, Mr. Chauncey M. Depew said: "The most instructive and pleasurable of our public assemblies are those which commemorate the better element of our common humanity. The fierce competitions of our industrial conditions present the possibilities for unequal success, and provoke the antagonisms which threaten social order and security. As the less fortunate drift into hostility to their more successful brethren, and those who by their own ability or by inheritance, have been lifted above the struggles of life, lose sight of and sympathy with the workers, the internal relations of crowded communities become dangerous and intolerable. At this point the man of wealth who founds or endows an institution which shall contribute in a large and permanent way to the welfare of the people becomes a statesman, as well as a philanthropist. He brings us back to first principles in this recognition of our common origin and interests. The currents of human sympathy again flow and throb between the avenue and the alley, the cottage and the palace.

"But how most wisely to invest the money which is to carry out a charitable purpose is not an easy problem. It is often partly wasted to gratify the vanity of the donor. Mr. Vanderbilt had become familiar by his own sufferings, so patiently endured that none but his intimate friends knew of them, with the beneficial effects of medical skill and the possibilities of its growth. With his strong common-sense he saw that here was practically an untried field, where the advancement of science might work out the most beneficient and benevolent ends. Libraries, hospitals, and art and literary institutions existed in numbers, each doing in its own way admirable work. While in the Old World governments fostered schools of medicine, here their only patrons were the profession, and there was not a single great endowment in the land. To build a college to be called by his name was a temptation; but in a city where so many excellent universities already existed, he saw that the wiser use of his money was to develop and enlarge an old institution, whose age, traditions and experience were of incalculable value, and constituted a permanent capital which wealth could not create. In selecting the College of Physicians and Surgeons, he chose the oldest in years, and the equal in rank and equipment of the best."

Mr. Depew then outlined the early struggles and subsequent history of the college, whose founders established the first free dispensary New York ever had, and spoke of the influence of the institution on the progress of medicine in America. He also noted the incidents of the old contest for supremacy with Columbia College, which became one of the political issues of the time and ended in triumph of the medical school; after which he went on to say:

"The College of Physicians and Surgeons becomes one of the strongest and best appointed schools in the world, through the medium of the splendid benefaction we this day commemorate. Upon these grounds, donated by William H. Vanderbilt, whose gift erects, furnishes and endows a building equal to all the requirements of the present and the needs of the future. Mr. William D. Sloane builds the Maternity Hospital, and the generosity of his wife endows all the beds, making them free; while the four sons create the clinic, which will be a vast dispensary, giving without charge, to the poor for all time, medicines and the best professional attendance, as a memorial of their father, more grateful to him if living, and to his spirit now that he is dead, than stately shaft or gorgeous mausoleum. A private benefaction renders possible the construction and equipment of a medical college superior to any ever known in this country, and equal to the best in the world. With this endowment, and the immense inspiration which will follow it, New York will become the centre of medical learning, education, and acquirement for the American continent.

"William H. Vanderbilt led a life of work and care. He knew merit, and recognized, rewarded, and promoted it in numberless ways. He despised pretenders, idlers and shams. He wanted his fellowmen to look through the wealth he was administering to the best of his ability, and see him as he understood himself, claiming no superiority to which he was not fairly entitled, trying to do his duty as a man and a citizen, living temperately, loving his friends, and willing to help in every good or public work. He was proud of New York, and besides his conspicuous gifts for the obelisk and this college, he contributed in an unobtrusive way vast sums for religious, benevolent, art and educational enterprizes. May his example inspire others to those deeds which are possible only to a few, but, wisely bestowed, may make our metropolis supreme in every department which educates, elevates and ennobles the race."

PHILADELPHIA.

— The annual Commencements passed off as usual, the Jefferson heading the list with two hundred and twenty-three graduates, of April 2d; the University following on May 1st, with about one hundred and fifty recipients of the medical degree, and the Medico-Chirurgical coming in with only five in the graduating class. The Spring Courses have begun, and will last until June; the clinics continue until summer.

Miscellany.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

THE programme of the Eighth Annual Congress of this Association, to be held at the hall of the College of Physicians, corner Thirteenth and Locust Streets, Philadelphia, May 27th, 28th, and 29th, is as follows:

MAY 27TH.

Morning Session, at 10 o'clock. Roll-call, reception of guests, etc.; President's address. Papers: 1, Two Instances of Adenoid Disease of the Root of the Pharynx which exhibited Unusual Features, Harrison Allen, M.D., Philadelphia; 2, The Intrinsic Muscles of the Larynx, Prof. Joseph Leidy, M.D., LL.D., Philadelphia (by invitation of the Council). Appointment of Nominating and Auditing Committees, presentation of instruments, etc. Adjournment at 1 o'clock.

Afternoon Session, at 3 o'clock. 3, Concerning the Positions of Paralyzed Vocal Bands, from the Physiological Laboratory, Harvard Medical School, Franklin N. Hooper, M.D., Boston; 4, "Laryngeal Vertigo," Frederick I. Knight, M.D., Boston; 5, Further History of the Case of Paralysis of the Posterior Crico-Arytenoid Muscles presented at the first meeting of the Association (1879), with report of Autopsy and Exhibition of Specimens, J. Solis-Cohen, M.D., Philadelphia; 6, A Case of Congenital Defect of the Epiglottis, illustrating its Function in Deglutition, Frank Donaldson, M.D., Baltimore; 7, Buccal Tuberculosis, D. Bryson Delavan, M.D., New York.

Evening. Reception by the President to the Fellows of the Association.

MAY 28th.

Morning Session, at 10 o'clock, promptly. Business meeting; open to the Fellows of the Association only.

1, Report of the Secretary; 2, Report of the Treasurer and Auditing Committee; 3, Report of the Librarian; 4, Report of Committee on Nominations for 1886–7; 5, Miscellaneous Business. At 11 o'clock the doors will be opened, and the reading of papers commenced: 8, Observations on the Use of some of the newer Remedies in Diseases of the Upper Air-Passages, E. L. Shurly, M.D., Detroit; 9, The simplest and most efficient Treatment of Diphtheria, Wm. H. Daly, M.D., Pittsburgh; 10, The question of Hæmorrhage following Uvulotomy, E. Carroll Morgan, M.D., Washington; 11, *a*. Three Cases of Thyrotomy; recovery in each case, with excellent voice. *b*. Alarming Hæmorrhage after Tonsillar Excision arrested by Torsion of the Artery, Clinton Wagner, M.D., of New York. Adjournment at 1 o'clock.

May 28th.

Afternoon Session, at 3 o'clock. 12, The Laryngeal Image as seen in Photographs taken during the production of Tones in the Singing Voice, with Lantern Exhibition of Photographs, Thomas R. French, M.D., Brooklyn; 13, Clinical Notes on Prolapse of the Laryngeal Ventricles, with cases, George W. Major, M.D., Montreal; 14, A Novel Procedure for the Removal of Sub-Glottic Laryngeal Growths, Wm. C. Jarvis, M.D., of New York; 15, Cases of Laryngeal Œdema, T. Armory DeBlois, M.D., of Boston; 16, A Case of Perichondritis of the Larynx, with specimen, Charles H. Knight, M.D., of New York; 17, A Case of Gummatous Disease of the Larynx, with spontaneous re-opening of Larynx after Thyroid Laryngotomy, Edgar Holden, M.D., Newark; 18, Gummatous Infiltration of the Base of the Tongue, U. G. Hitchcock, M.D., New York.

Evening. Annual dinner of the Association at the St. George Hotel, at 8 o'clock.

May 29th.

Morning Session, at 10 o'clock. 19, A Case of Hysterical Sneezing, apparently cured by applications to the Nasal Passages of the continuous Battery Current, S. Solis-Cohen, M.D., Philadelphia; 20, A Contribution to the Pathology and Treatment of the Respiratory Vaso-Motor Neuroses, John N. Mackenzie, M.D., Baltimore; 21, Inflammation of the Antrum, Beverley Robinson, M.D., New York; 22, A Case of Naso-Pharyngeal Growth, Samuel Johnston, M.D., Baltimore; 23, What Cases of Nasal Catarrh require Surgical Treatment? Clarence C. Rice, M.D., New York. Adjournment at 1 o'clock.

Afternoon, at 2. Reading and Discussion of four Candidates' Theses. Election of Fellows, ballot for officers, 1886–7, and their induction into office. Adjournment. Excursion.

President, HARRISON ALLEN, M.D. *Secretary*, D. BRYSON DELAVAN, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING MAY 1, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Diph. and Croup.	Scarlet Fever.
New York	1,439,039	657	223	14.70	19.50	1.80	6.60	1.35
Philadelphia	971,363	—	—	—	—	—	—	—
Brooklyn	630,000	257	104	14.44	15.96	.38	7.42	2.28
Chicago	630,000	—	—	—	—	—	—	—
Boston	390,406	156	47	14.08	14.08	2.56	4.48	3.84
St. Louis	417,220	—	—	—	—	—	—	—
Baltimore	400,000	169	73	2.36	17.70	.59	1.18	.59
Cincinnati	325,000	109	39	6.44	30.24	1.84	2.76	.92
New Orleans	238,000	—	—	—	—	—	—	—
Buffalo	202,818	—	—	—	—	—	—	—
District of Columbia	205,000	84	24	9.52	11.90	1.19	—	1.19
Pittsburgh	190,000	57	22	14.00	15.75	—	5.25	1.75
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	118,070	35	7	8.58	20.22	—	5.36	2.68
New Haven	78,000	—	—	—	—	—	—	—
Nashville	60,000	—	—	—	—	—	—	—
Charleston	60,145	36	15	13.12	13.90	5.56	—	—
Worcester	68,383	21	8	9.52	20.80	4.76	4.76	—
Lowell	64,051	21	6	33.32	9.52	9.52	14.28	—
Cambridge	59,660	16	2	—	37.50	—	—	—
Fall River	56,863	16	6	12.50	12.50	6.25	—	6.25
Lynn	45,861	13	3	—	15.38	—	—	—
Lawrence	38,825	12	2	—	25.00	—	—	—
Springfield	37,577	—	—	—	—	—	—	—
New Bedford	33,393	9	3	11.11	11.11	11.11	—	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	8	2	—	25.00	—	—	—
Holyoke	27,894	—	—	—	—	—	—	—
Chelsea	25,709	9	2	11.11	22.22	—	—	—
Taunton	23,674	8	2	12.50	—	—	—	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	5	2	—	20.00	—	—	—
Brockton	20,783	—	—	—	—	—	—	—
Newton	19,759	6	—	33.33	16.66	16.66	—	—
Malden	16,407	5	2	40.00	20.00	—	40.00	—
Fitchburg	15,375	4	—	—	—	—	—	—
Waltham	14,609	1	—	—	—	—	—	—
Newburyport	13,716	4	—	—	—	—	—	—
Northampton	12,896	7	3	14.28	14.28	—	14.28	—
89 Massachusetts Towns	—	52	15	13.94	14.87	—	9.65	5.79

Deaths reported 1,777: under five years of age 612: principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 225, consumption 315, lung diseases 274, diarrhœal diseases 31, diphtheria and croup 92, scarlet fever 29, whooping-cough 27, typhoid fever 11, cerebro-spinal meningitis eight, malarial fever eight, puerperal fever six, erysipelas six, measles four, small-pox (New York) one. From whooping-cough, New York 16, Brooklyn four, Boston and Pittsburg two each, Charleston, Chelsea and Taunton one each. From typhoid fever, Boston and District of Columbia three each, Lowell two, Cincinnati, Charleston and Newton one each. From cerebro-spinal meningitis, New York seven, Fall River one. From malarial fevers, New York six, District of Columbia two. From puerperal fever, New York and Brooklyn two each, Boston and District of Columbia one each. From erysipelas, Brooklyn five, Boston one. From measles, Boston two, New York and Brooklyn one each.

In 105 cities and towns of Massachusetts, with a population of 1,187,123 (population of the State 1,941,465), the total death-rate for the week was 15.47 against 18.02 and 15.99 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending April 17th the death-rate was 20.3. Deaths reported 3,535: infants under one year of age 832; acute diseases of the respiratory organs (London) 362; whooping-cough 140, measles 114, diarrhœal diseases 43, diphtheria 26, fever 23, scarlet fever 21.

The death-rates ranged from 14.4 in Wolverhampton to 32.3 in Blackston; Birkenhead 15.3; Birmingham 24.6; Hull 18.0; Leeds 19.4; Leicester 17.6; Liverpool 19.5; London 19.8; Manchester 27.1; Newcastle-on-Tyne 18.5; Nottingham 21.8; Sheffield 18.0.

In Edinburgh 18.0; Glasgow 22.9; Dublin 25.0.

For the week ending April 17th in the Swiss towns, there were 46 deaths from lung diseases, consumption 37, diarrhœal diseases 11, diphtheria and croup five, typhoid fever four, small-pox three, measles, whooping-cough and erysipelas one each.

The death-rates were: at Zurich 15.3; Geneva 13.1; Basle 20.7; Berne 34.2.

The meteorological record for week ending May 1, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps. —

Week ending Saturday, May 1, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday, ...25	30.050	47.5	53.6	44.3	59.0	72.0	60.0	60.7	E.	E.	W.	15	12	12	C.	C.	C.	—	—
Monday, ..26	29.913	52.3	69.0	46.0	34.0	56.0	58.0	49.3	N.E.	E.	E.	6	8	15	F.	C.	C.	—	—
Tuesday, ..27	29.962	47.3	51.4	44.4	34.0	59.0	75.0	56.0	E.	S.E.	W.	15	12	12	C.	O.	L. Rain	—	—
Wednes., .28	29.883	47.4	55.0	43.5	80.0	71.0	89.0	80.0	N.W.	E.	N.E.	9	12	7	O.	F.	O.	—	—
Thursday, 29	29.995	47.6	50.1	45.2	66.0	55.0	61.0	60.7	S.E.	E.	E.	15	12	6	O.	C.	O.	—	—
Friday, ...30	30.026	46.0	49.9	43.5	72.0	68.0	86.0	75.3	E.	E.	N.	17	22	3	O.	C.	C.	—	—
Saturday, . 1	29.954	49.0	55.3	39.9	59.0	60.0	72.0	63.7	N.W.	S.E.	N.E.	2	11	8	C.	F.	C.	.6	0.02
Mean, the Week.	29.969	48.2	54.9	43.8				63.7											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MAY 1, 1886, TO MAY 7, 1886.

TOWN, FRANCIS L., major and surgeon. Granted leave of absence for eight months, with permission to go beyond sea, to take effect when his services can be spared by his Department Commander. S. O. 101, A. G. O., April 30, 1886.

WILSON, WM. J., assistant surgeon and captain. Died May 2, 1886, at Plattsburg Barracks, N. Y.

WILSON, GEO. F., first lieutenant and assistant surgeon. Ordered for duty at Fort Shaw, M. T. S. O. 37, Department of Dakota, April 26, 1886.

POLHEMUS, A. S., first lieutenant and assistant surgeon. Relieved from duty at Presidio of San Francisco, Cal., and ordered for duty as post-surgeon, Fort Halleck, Nev. S. O. 28, Department of California, April 26, 1886.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING MAY 8, 1886.

KITE, ISAAC, assistant surgeon. Ordered to Naval Hospital, Brooklyn.

SIMON, W. J., passed assistant surgeon. Ordered for temporary duty to the Naval Academy, Annapolis.

LIPPINCOTT, GEO. C., passed assistant surgeon. Ordered for temporary duty to the Naval Academy, Annapolis.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE FOR THE WEEK ENDING MAY 1, 1886.

MAGRUDER, G. M., assistant surgeon. Appointed an assistant surgeon, April 24, 1886. Assigned to temporary duty at Norfolk, Va., April 26, 1886.

SOCIETY NOTICES.

SUFFOLK DISTRICT MEDICAL SOCIETY. OBSTETRIC AND GYNÆCOLOGICAL SECTION. — The last meeting of this Section, for the season, will be held in the large Medical Library Room, 19 Boylston Place, on Wednesday evening, May 19th at 7.45 o'clock. Communications: "Dr. J. C. Irish, of Lowell, "Discussion of Statistics of Ovariotomy." Dr. W. E. Boardman, "A Case of Labor complicated by Fibroids; with some Remarks." Dr. J. R. Chadwick, "A Case of Extra-Uterine Fœtation, with Presentation of the Specimen." Several gentlemen prominent in the specialties to be treated have consented to take part in the discussions. Refreshments after the meeting.

JAMES R. CHADWICK, M.D., *Chairman.*
ROBERT B. DIXON, M.D., *Secretary.*

DEATH.

Died in Gardner, Mass., May 8, 1886, David Parker. M.D., M.M.S.S., aged eighty-four years.

BOOKS AND PAMPHLETS RECEIVED.

Outlines for a Museum of Anatomy. Prepared for the Bureau of Education by R. W. Shufeldt. Washington. 1885.

The Home Vapor Bath, Disinfector, Inhaler and Needle Bath, etc. Home Vapor Bath Co. New York. 1886.

Handbook for the Instruction of Attendants on the Insane. Boston: Cupples, Upham & Co. 1886.

Faith Cures, by James Hendrie Lloyd, A.M., M.D., Instructor in Electro-Therapeutics in the University of Pennsylvania. (Reprinted from the Medical Record, March 27, 1886.)

Eleventh Annual Announcement and Catalogue of Meharry Medical Department of Central Tennessee College, Nashville, Tenn. 1885–86.

Sixteenth Annual Report of the Massachusetts Homœopathic Hospital and of the Ladies' Aid Association. For the Year ending December 31, 1885.

Clinical Lectures in Orthopœdic Surgery. Delivered at the Philadelphia Hospital, by A. Sidney Roberts, M.D. Nos. I, II. The Etiology of Morbid Anatomy, Varieties and Treatment of Club-Foot. (Reprint from the Medical News, March 13 and 20, 1886.)

Water-Supply of Cities and Villages. The Anniversary Address before the Medical Society of the State of New York at the Eightieth Annual Meeting. Delivered at Albany, February 3, 1886, by A. Vander Veer, A.M., M.D., Albany, N. Y. (Reprint from Transactions of the Society. 1886.)

Original Articles.

A CASE OF EXTRA-UTERINE PREGNANCY OF SEVEN YEARS DURATION, IN WHICH THE BONES OF AN ADULT FŒTUS WERE FOUND DURING AN ATTEMPT AT OVARIOTOMY.[1]

BY JOHN HOMANS, M.D.,
Instructor in Harvard University in the Diagnosis and Treatment of Ovarian Tumors. Surgeon to the Massachusetts General Hospital.

On the 4th of March, 1886, I went to Dorchester to see a woman in consultation with Dr. E. G. West. I found a married woman, thirty-five years old, in bed, pale, breathing about thirty times a minute, measuring thirty-four and a half inches in circumference at the umbilicus, and dull everywhere over the abdomen to a point about an inch above the umbilicus. She stated that she had been seized with sudden abdominal pain on February 10th, and had sent for Dr. Edward G. West. Up to that time she had worked in a bookbindery. I will give Dr. West's history of the case, and his treatment.

March 10, 1886.

Dr. John Homans: —

Dear Sir:— At your request I write out the following history, as far as I have been able to obtain it, of Mrs. J. S.

A woman of Irish descent, medium height, dark complexion, weighing about one hundred and thirty-pounds, and about thirty-five years old. She had always enjoyed the best of health till August, 1879. I learned from her that during the latter part of August when about six weeks pregnant, she was taken sick with uterine hæmorrhage and probably pelvic peritonitis. About a couple of months afterwards she was again taken sick with the same symptoms. During the following winter the attending physician told her that the fœtus was outside of the uterus in the abdomen (extra-uterine pregnancy).

About the eleventh or twelfth month of pregnancy, while flowing, she called on Dr. J. R. Chadwick, who told her he suspected abdominal pregnancy. Soon after this time, that is in June or July, 1880, her flowing ceased and she gained strength and went to work to support herself and husband, and enjoyed fairly good health in spite of the enlargement of the abdomen. She was always regular as to her catamenia and had never conceived again. On February 10th, 1886, I was called in. I found her suffering from a great deal of pain referred to the abdomen with the temperature at 100° and pulse about one hundred. She was flowing at the time, and stated that she had had a dejection within twenty-four hours, and gave me the above history. Examination revealed the abdomen quite lax and a hard mass in the left hypochondriac and iliac regions, oblong in shape, running longitudinally with the body, about as large as your two fists placed together, and in the location of the descending colon. She stated positively that her bowels had moved every day, and that she had taken physic to open them.

Owing to her flowing I made no vaginal examination. After injecting one-eighth grain of morphia twice, I controlled the pain and left with her a few one-eighth grain pills of morphia, and ordered steaming hot flannels to be placed on the abdomen. In the evening I found her quite comfortable.

February 11th. The next morning I found her condition about the same. The pain was still referred to the abdomen, particularly to the left side whenever the morphia was remitted.

February 12th. I found she had vomited considerably during the night, and the abdomen was more swollen, and was tympanitic over about the whole surface except over the left hypochondrium. I ordered milk and lime-water in equal quantities, and powders of subnitrate of bismuth. She had ceased flowing and I ordered an enema of soap suds, which was given with little or no results.

February 13th. The pulse and temperature remaining the same and the vomiting being controlled to some extent, I ordered an ounce of castor oil beaten up in lemon, and a couple of hours afterward another enema, but the oil was thrown off and the enema produced no effect. On my afternoon call I examined per vaginam and found the uterus quite immovable and a hardened doughy mass behind it, besides evidences of hardened fæces. I gave an enema myself and removed a small amount of yellowish slate-colored fæces. To relieve the distension I directed that turpentine should be sprinkled upon the hot flannels applied to the abdomen.

February 14th. The condition was the same except that the turpentine had caused some irritation to the abdomen and she had discarded it. I again gave her an enema and broke up the hardened fæces digitally through the vagina and rectum, using two to three quarts of water and obtaining a very large movement. I ordered two tablespoonsful of salts to be given the first thing on the next day.

February 15th. I found her in exactly the same condition, but the salts had not operated nor disturbed her. Again I gave her an enema, and finding hardened masses in the rectum I again broke them up digitally, and again obtained a very large movement. I ordered an enema of ℥iv sweet oil, but on calling in the afternoon I found that this had had no effect and again I repeated the operation of the morning, with the same results, and much to the relief of my patient.

February 16th. Her condition was improved, she felt more comfortable and relieved. The temperature was about 99° but the pulse about 100, but she had had no voluntary dejections and none of the bismuth had shown itself, all the dejections being a yellowish slate color. She had now been under my care about a week, and evidently although I had removed at the very least, two quarts of solid fæcal matter, there was no clear passage. Heretofore, I had moved slowly for fear of lighting up her old pelvic cellulitis, but now I decided to use water as long as I could obtain any results. All this time the tumor in the left side was plainly felt and was evidently fæcal. I therefore raised the foot of the bed high up and the hips high up upon pillows so as to place a vessel under her. Then using the fountain syringe and a weak solution of salt in warm water, I passed the tubing as high up as I could, first dilating the passage with the water, and continued the use of the water until I had used three gallons, washing away a thick muddy pea-soup mixture and keeping it up until the water came away clear, and the tumor in the side had disappeared. But there was no evidences of bismuth, even though I removed at this sitting over six quarts of solid matter at the very least calculation, or a full peck in all. I therefore ordered a dose of salts of three tablespoonsful for the next morning.

[1] Read, by invitation, before the Obstetrical Society of Boston, March 13, 1886.

February 17th. I found she had had a voluntary dejection, and before night four more very large and quite thick, and at last the bismuth appeared, but still there were hard black masses and I ordered another dose of salts the next morning. She said she was more comfortable, and the temperature and pulse was very near normal, but the abdomen was distended as largely as ever, and the lower part from three inches above the navel was flat and evidently filled with fluid which neither the salts nor the injections made any impression upon. She had lost but little flesh and said she felt quite strong.

February 18th. I found she had had ten movements of the bowels, large and watery and with large quantities of fæcal matter mixed with mucus, but with no dimunition in the size of the abdomen. Her temperature and pulse were nearly normal, and she laughed and talked very pleasantly about herself. The tenderness in the left hypochondrium where the tumor originally had been, was subsiding. She appeared to be improving in every way but the size of the abdomen, which appeared to be larger than when she first took to her bed. There was no swelling of the legs and the heart's action was normal, nor were there any other symptoms of local or general dropsy. I ordered a pill containing

℞	Strychnia	gr. 1-20.
	Extr. Belladonna, podophyllin ää . .	gr. 1-5.
	Pulv. femi. sulf., aloes soc. . . .	gr. j.
	Syr. simp.	gr. s.

to be given one every eight hours, which caused from two to four large watery movements per day, containing large quantities of fæcal matter.

On the 19th and 20th, she appeared to be improving, or at least holding her own, but the enlargement of the abdomen remained the same, if not a little greater.

On the 21st, I found the temperature normal, the pulse about 100, but the respiration which I had noticed was quickened during several days past, I found increased to forty per minute. On percussion of the back I found a tympanitic percussion note high up behind the ribs where the liver should have been, and evidently pressing the latter upon the space of the lungs. The lower part of the lungs was flat shading off into dulness, but the respiratory murmur could be heard through it with a few coarse râles. There were no crepitant râles nor bronchophony. Hence I concluded the condition was due to pressure of the liver upwards and hypostatic congestion of the lungs, and not pneumonia; although she had a frequent cough at this time and at times spat mucus streaked with blood, there was no typical rusty-colored sputa of pneumonia. Since that time I find that she had been suffering from a so-called cold for some time before she was taken sick, and that her father died from consumption, but many years after she was born. There have been no other cases in the family. At this time, considering her history and the tumor to be felt in the vagina behind the uterus and the dulness and fluctuation wave in the abdomen, the area of dulness not being increased or diminished by her lying either on one side or the other, I concluded I must be dealing with some cystic tumor, probably of the ovary. There was no distinct fluctuation from the abdomen to the tumor or the uterus in the vagina.

February 25th. I called in Dr. J. R. Chadwick in consultation, and asked to see his notes of the case taken seven years before; these he very kindly showed me and they were in effect that he had suspected abdominal pregnancy. At this time her respirations had risen to 55 or 60, and her temperature to 100. After a thorough examination we decided to aspirate through the abdominal walls at a point about three inches below the umbilicus. The fluid first drawn had all the appearances of pure pus. Thinking that if it was such the proper place to make a counter-opening was through the vagina, if it was a large pelvic abscess, we left the aspirating needle in the abdomen and plunged a large trocar in the mass felt in vagina, but from that, much to our surprise, about 4½ of thick oily fluid looking like melted butter flowed out which hardened upon cooling, and evidently could only come from a dermoid cyst. Hereupon Dr. Chadwick tried to reach the cyst above, but could not. Then we returned to the abdomen and drew by aspirating, three pints of the pus-looking fluid, considerably relieving the respiration of our patient; after emptying one sac we struck another, but did not empty it. Dr. Chadwick sent a specimen of both fluids to Dr. Gannett, who made the enclosed report, confirming our diagnosis of multilocular cystic dermoid tumor.

110 BOYLSTON STREET, March 3, 1886.

Dear Dr. Chadwick, — The clear fatty fluid undoubtedly comes from a dermoid cyst. The other fluid, which is of the consistency and of about the color of thick pea soup, is a fatty emulsion, containing numerous hæmatoidin crystals. This latter may come either from an ordinary ovarian cyst or from a dermoid of ovary. There is little doubt, in my opinion, but that the case is one of tumor of ovary, probably multilocular, some portions of which, at least, are dermoid.

The presence of hæmatoidin means simply an earlier hæmorrhage. Sincerely,

W. W. GANNETT.

After the operation, her respiration was improved but the temperature remained about 101° and the pulse 100, but from this time on a hectic flush appeared up the cheeks and gradually the temperature rose to 103 1-2° and the pulse to 120, the respiration remaining about 40; for the last ten days she could only lie upon her back. In spite of brandy and other stimulants, strong soups, egg nogs, etc., she was perceptibly failing day by day.

On March 4th, I called Dr. John Homans in consultation, who kindly consented to gratuitously give my patient a chance for another lease of life by performing ovariotomy on her in spite of the unfavorable conditions. This he thought best to do soon, first on account of her rapidly failing health, and second, because her catamenia would be due in a week. The operation took place March 8th, and I leave Dr. Homans to relate the rest.

E. G. WEST, M.D.

It was evident that the patient was suffering from peritonitis and from some embarrassment in the right lung, and it was also evident that there was a cystic tumor in the abdomen. I inquired of Dr. West, and of the patient and of her sisters, whether they thought she was failing or gaining. They agreed that she was losing ground. I learned from Dr. West the story of the pregnancy, seven years before, and of his success in unloading the colon, and the relief which

followed the removal of the fluid by aspiration. The case looked to me like one of ovarian cyst, with more or less peritonitis and œdema of the lung, and I supposed that, if there had been extra-uterine pregnancy, the products of conception would now be tightly encysted in a hard mass, or even cretaceous, after so many years. The question for me to decide was, whether to operate at once, or wait for her to get stronger, and have a better pulse and temperature. My experience had been that in debility and peritonitis, particularly after aspiration, time is lost, and not gained, by waiting, and patients generally go from bad to worse, until an operation is hopeless; besides, the case was evidently one of ovarian cystic disease, both in its appearance and symptoms, and from Dr. Gannett's report of the fluid. Accordingly, Dr. Pratt, at my request, kindly sent the ambulance of the Massachusetts General Hospital, and brought the patient to St. Margaret's Home. The ride was well borne, and the patient seemed to improve somewhat in the quiet and care of the Home. Dr. E. G. Cutler kindly examined the chest, and reported that the right lung was œdematous at its lower part, and that the first sound of the heart was weak. I found a trace of albumen in the urine.

I had just had two cases similar to the present one in regard to ovarian disease and peritonitis; and in one I had operated and cured the patient, and in the other I had waited and lost her, so I decided to operate on March 8th. My incision was enlarged until it measured five inches. I found an ovarian cyst, containing about five pounds of fluid, thoroughly adherent and incorporated by old and recent peritonitis to the parieties, to the intestines, and to another cyst beneath. I tried to peel off the wall of the ovarian cyst from its attachments, but my attempts were followed by hæmorrhage and laceration of the cyst-wall, which was yellow and rotten; it tore in strips, and its outline was lost. I then tried to trace the cyst-wall down to the uterus and to secure the pedicle, but I found the pelvic brim covered with peritoneum, or some other membrane, running from each ilium over another cyst in the pubic region. This cyst was brought to light by emptying the first one I had opened and sponging it out, and the tumor I now saw was either contained in the first cyst, or was distinct from it. Its wall was continuous with the bladder in front and the intestines behind. I said to the spectators that the tumor we now saw was not like an ovarian cyst, nor did it seem to be the bladder with thickened and distended walls, nor was it the uterus, although it resembled it somewhat. In color, the outer surface of the tumor was dark red, and to the touch, its walls seemed about half an inch thick, and it was filled with fluid.

This cyst was about the size of a man's head, and its covering membrane was continuous with the peritoneum of the intestines and bladder. It occupied the left side very slightly more than the right, though it was nearly central. On feeling, I could not touch a Fallopian tube, ovary, or uterus, nor could I pass my hand around the cyst into the pelvis any more than I could pass it into the thorax, without making a hole in the diaphragm. A large-sized aspirating needle was thrust into the tumor, but brought nothing out; then a large canula was put in, and about four or five pounds of greenish-yellow, thick, *very offensive* matter, looking exactly like pus, ran out. This was examined by Dr. Gannett, with the accompanying result.

Harvard Medical School, March 9, 1886.

Dear Dr. Homans,— The fluid received this morning, removed at operation from Mrs. S., is of a red[2] tint, and of the consistency of thin cream. Microscopically, it shows an abundance of fine, fat drops; numerous degenerated red blood-corpuscles; granular corpuscles (fatty degenerated); finely-granular matter; hæmatoidin crystals; an occasional nucleus. I can find no histological evidence of pus, but consider the specimen a fluid in which a fatty-granular detritus is suspended, and into which, at earlier periods, hæmorrhages have taken place. Sincerely,

W. W. Gannett.

After emptying this sac, which was one of abdominal pregnancy, I passed in my hand, and at the bottom, found all the bones of an adult fœtus completely macerated and separated. These bones were removed, washed, and dried, and are in this bottle, which I will pass around. They are a complete set of the bones of a fœtus at the eighth or ninth month of pregnancy, and were completely macerated when I took them out. Some of the smaller bones may have been lost in sponging out the sac, or in some other way, but they seem complete. The abdominal cavity was cleansed, a glass drainage-tube was put in above the fœtal sac, and the wall of the sac and the skin of the abdominal incision were sewed together. The great shock of the operation and the loss of blood in this patient, worn down by weeks or months of peritonitis and decomposition, had made the pulse very feeble. After removal to the bed, transfusion of warm salt and water into the median cephalic vein of the right arm was done, ten ounces being passed in. The patient was by no means bloodless, but I wished to see if transfusion would strengthen her. Later, in about three-quarters of an hour, Drs. F. B. Harrington and John Homans, Second, transfused thirty ounces into the left arm; but although the first transfusion brought back or induced, or, at least, was followed by a perceptible pulse of 140 to the minute, there was no real improvement, and the patient died about four hours after the operation began. No thorough autopsy was obtained. In preparing the wound for the undertaker, I found that I could not trace the walls of the rotten ovarian sac, and that the sac of pregnancy was underneath at the time of the operation. This sac rested on top of the uterus, which was adherent to it, and it seemed to have started rather on the left side of the pelvis. It was tough, and its walls were about one-third of an inch thick. The uterus was elongated and enlarged. It was tightly fixed, as were apparently all the pelvic viscera. No ovaries, tubes, nor any outlines, except those of the uterus, could be made out through the undissected tissues.

While it would be satisfactory, and would make this case more complete to have found out whether the ovaries or the tubes, or the broad ligaments, were to be found, yet practically, this knowledge would not have affected the treatment or the result. There existed a multilocular ovarian cyst and the cyst of extra-uterine pregnancy.

I can but theorize on the original relations between the ovarian cyst and the extra-uterine pregnancy. Either the pregnancy was ovarian in a dermoid ovary, or tubular, or abdominal, near a dermoid ovary. If the pregnancy was ovarian, it is easy to conceive that, as

[2] The fluid got mixed with some of the blood of the operation. J. H.

the fœtus gradually shrank, the cysts might grow until nothing but macerated bones remaining, the tumor would become, to all appearances, an ordinary ovarian one; or an ovarian cyst might begin to grow near, and become incorporated with the sac containing the fœtus. I did not feel the tumor between the uterus and rectum mentioned by Dr. West, as I never reached the lower part of the pelvis and I think it must have been thoroughly emptied by the tapping on February 25th. The duration of extra-uterine pregnancy or abdominal gestation generally comes to an end by rupture of the sac about the third month, but cases are on record where the fœtus has been carried as long as fifty-six years. I am not aware that abdominal pregnancy has been mentioned as a complication of ovariotomy, although the differential diagnosis between this tumor and an ovarian cyst has always been taught. I have several times, before and after death, seen tubular pregnancy, but this is the first case that has come under my personal observation of abdominal pregnancy in which the bones of a fœtus were found so many years after impregnation had taken place.

REPORT ON HISTOLOGY AND EMBRYOLOGY.

BY CHARLES SEDGWICK MINOT, M.D.

THE extreme rapidity with which discovery after discovery follows previous discoveries in histology and embryology, renders it altogether impracticable to even attempt, within the limits of a short report, a general review. We necessarily, under the circumstances, confine ourselves to a few notices of some of the more important advances.

DEVELOPMENT OF THE SPERMATOZA.

We are now able to form, for the first time, a tolerably clear and complete conception of the development of the mammalian spermatoza. Several important papers on the subject have been published during the last year, and they have so supplemented one another, that without following any one author, we can construct a tolerably full history of spermatogenesis. Of the papers[1] cited, the most important are those of Brown, 1; Weidersperg, 2; and Biondi, 4.

The development of the seminiferous tubules in the embryo has not yet been satisfactorily ascertained; nor has the progressive differentiation of the cells of the tubules during fœtal life been properly worked out. Fortunately, in the adult, the various stages are found side by side. The first stage is the mother-cell, which appears next the outer surface of the tubule, and lies between columns of cells, in various stages of metamorphosis. The mother-cells are rounded with a relatively large nucleus, in which the chromation is distributed in a rather coarse network, as in resting nuclei. The next stage is the first step on the part of the mother-cell in the production of the columns of cells, which stretch in radical lines from the mother-cells towards the centre of the tubule. Apparently, the mother-cells divide in such a way that the cells resulting from the division are unlike, one of them preserving the character of the mother, and the other differing from it in having a relatively larger nucleus and a finer chromation network; the cell like the original one, and which we may still call the mother-cell, lies at the outer edge of the tubule, while the other, or daughter-cell, lies towards the centre. The mother-cell continues to produce daughter-cells, so that the column grows centripetally; how many daughter-cells are produced is not known. The column also grows by the multiplication of the daughter-cells, but the cells thus formed lie in the innermost part of the column; they are smaller than the first generation of daughter-cells; they have relatively large nuclei, with the chromation gathered into two or three spots — nucleoli. We thus have a column of cells, in which we can distinguish three zones: 1, The outer zone of the mother-cell; 2, the middle zone of the daughter-cells; 3, the inner zone of the second generation of daughter-cells. These zones remain more or less marked for some time, for as the cells of the inner zone change into spermatoblasts, those of the middle zone change into second daughter-cells; and as the inner spermatoblasts change into spermatozoa, the cells of the second zone change into spermatoblasts. Hence, through several stages, the three zones are marked out, and in a section, where we find the stages jumbled together alongside one another, the wall of the tubule shows the well-known division into three zones.

The spermatoblasts arise from the nuclei of second daughter-cells, and not as Brown has, I think erroneously, believed, out of the whole cell. Biondi seems to me right in his statement that the cells break down and form a granular mass or column, in which the nuclei are found. When all the cells have thus broken down, the developing spermatozoa lie in the column produced by their detritus; at the outer end of this column, the mother-cell can often be distinguished, and has been taken by many observers for the nucleus of a big, so-called supporting cell, the body of which these observers supposed the mass to be, in which the spermatoblasts are seen imbedded. The mother-cell has altered its character, especially in that the chromatin has gathered into a single spot or nucleolus, as in an ovum. The mother-cell ultimately disappears, but how is not satisfactorily ascertained.

The nuclei change into spermatozoa as follows: the chromatin gathers at one end, and makes the head of the spermatozon, and a small tail arises within the nucleus, and attached to the hump of the chromatin (head). The nuclear membrane is very distinct. It soon elongates into an oval bag, at one end the young spermatozoon head, and at the other, the remnants of the nucleus, together with a special round body, which may be obtained by chloride of gold, while the chromatin is unstained. The tail grows out beyond the membrane; the head elongates, and gradually assumes its adult form. The remainder of the nucleus undergoes certain changes of form, which are well figured by Brown. Finally, however, as shown by Weidersperg, the membrane ruptures, and it and its contents are lost, leaving the spermatozoon lying in the detritus. From this the spermatoza are ultimately liberated, and falling into the lumen of the tubule, pass off.

The series of changes may be summed up as follows:

[1] The papers referred to are:
1. Herbert H. Brown. On Spermatogenesis in the Rat. Quart. Jour. Microsc. Sci., July, 1885, xxv., 343.
2. Gustav. von Wiedersperg. Beiträge zur Entwickelungsgeschichte der Samenkörper. Arch. für Mikros. Anat., xxv., 113.
3. Gustav Platner. Ueber die Spermatogenese bei den Pulmonaten. Arch. Mikros. Anat., xxv., 561.
4 D. Biondi. Die Entwickelung der Spermatozoiden. Arch. Mikros. Anat., xxv., 594.
5. Gustav Platner. Ueber die Entstehung des Nebenkems und seine Beziehung zur Kerntheilung. Arch. für Mikros. Anat., xxvi., 345.
6. Valette St. George. Spermatologische Beiträge. Erste Mittheilung. Arch. Mikros. Anat., xxv., 581.

The mother-cell produces a number of daughter-cells, which also multiply by division; the daughter-cells break down, forming a column of matter (detritus), in which lie their nuclei, and at the base of which is the mother-cell; the mother-cell ultimately disappears, but how is not decided; the nuclei of the daughter-cells produce each a spermatozoon. The head and tail become visible within the nuclear membrane; the head is apparently formed by the chromatin of the nucleus; the nuclear membrane finally ruptures, and it, as well as the contents of the nucleus which have not taken part in the formation of the spermatozoon, are lost; among the last parts, is a special round body of small size, which appears in the nucleus while the spermatozoon is developing; this body is stained by chloride of gold, but not by hæmatoxyline; its significance is unknown. The long column with the mother-cell at the base has generally been taken for a large cell; it is the spermatocyst of La Valette, the supporting cell, *auct.*

THEORY OF HEREDITY.

The development of the spermatozoon in mammals as just described, show us that the spermatozoon consists chiefly of chromatin. Now it is known that hereditary transmission from the father is possible and usual; and further, it is probable that a single spermatozoon suffices for fertilization, as is known to be the case with some animals; hence it is probable that the chromatin is the material agent of hereditary transmission. The idea has been gaining ground for several years that the nucleus was the organ of heredity. This conception was, I believe, first brought forward by O. Hertwig after his observation that fertilization consists in the conversion of the spermatozoon within the ovum into a so-called male pronucleus, which unites with the nucleus of the ovum (female pronucleus) to form the permanent nucleus, the parent of all the nuclei produced during the development of the ovum. The idea of the importance of the nucleus is much strengthened by the discovery of Strassburger, that only the nucleus of the pollen grain, with possibly a very little protoplasm about it actually unites with the ovule in certain plants.

There are various observations which suggest that the nucleus has direct control over the organization of the cell, and that the essential part of the nucleus is the chromatin. We are, in fact, forced to the hypothesis that the chromatin is the physical basis in which the formative force of the organism is actually situated, and that the reason why children are like their parents is that they contain some of the same kind of, actually some of the very same, chromatin, as their parents, and therefore the same forms are reproduced because the form-regulating substance is identical. Variations occur because there is chromatin from two parents, and the two sorts of chromatin may differ in potency.

This theory renders pangenesis, both in the form advanced by Darwin, and in the infelicitous modification advocated by Haeckel and W. K. Brooks, unnecessary.

The hypothesis here given is not quite like any hitherto formulated, but is essentially similar to Weissmann's and Kölliker's. The whole subject has been elaborately discussed in a series of able essays.[2] That of Kölliker's may be specially recommended to those who wish to understand the problems without exhaustive study.

MECHANISM OF IMPREGNATION.

Science has hitherto had no explanation to offer as to why or how the spermatozoon seeks, finds and enters the ovum. We have been rather in the habit of considering it a matter of chance, and that the excessive number of spermatozoa was established to increase the chances; the suggestion is, however, hardly a tenable one, especially in the case of ova with a narrow micropyle, where chance has to hit a very small spot. On the other hand, Pfeffer's experiments lend support to the notion, which doubtless many have held, that the ova by chemical or other means exercise a specific attraction upon the spermatozoa. Pfeffer[3] found that certain chemical substances have a special attraction for certain moving vegetable organisms, for example, malic acid attracted them like light.

Dewitz[4] has observed that in the cockroach (Blatta orientalis) there is a relation between the spermatozoon and the ovum, which facilitates impregnation. The spermatozoa, which may be kept alive in 0.8–0.9 per cent. solution of common salt, are irresistibly attracted, so long as they are alive, by surfaces of any kind bounding the fluid in which they move. Upon these surfaces they move for the most part in curves, going always to the left as one looks at the surface from the side of the fluid; the movement is not quite in circles, though sometimes nearly so, but is interrupted occasionally by a straight motion, or one of greater or less curvature. Now the ovum is large, somewhat bean-shaped; the end which comes down last through the female ducts has a large number of funnel-shaped micropyles. Into the oviduct not far from its external os, opens the duct of the receptaculum seminis. It is supposed that the ovum passes by this point and immediately after causes an irritation which results by reflex action in the contraction of the receptaculum seminis so that the seminal fluid is thrown into the oviduct and on to the micropylar end of the ovum. The spermatozoa which come in contact with the surface of the ovum remain upon it moving around in leftward curves, and hence are almost certain to come across one of the micropyles, and by entering it, to penetrate the ovum. It was observed that spermatozoa placed upon the shell of an ovum do find and enter the micropyles quite readily. It appears then that the peculiar movement of the spermatoza and their tendency to follow surfaces, when matched by the modelling of the egg-shell contributes a mechanical device to ensure fertilization in the cockroach. For this species we need not assume either chance or a specific power of attraction. Dewitz's paper is valuable and suggestive; we therefore regret the more that it is two or three times as long as the matter it contains can possibly justify.

[2] v. Nägeli. Mechanisch-physiologische Theorie der Abstammungslehre. München. 1884.

O. Hertwig. Das Problem der Befructbung und der Isotropie des Eies, eine Theorie der Vererbung. Jena'ische Zeitschr. xviii. 1884.
E. Strassburger. Neue Untersuchungen über den Befruchbungsvorgang Heibden Phenerogarnen als Grundlage fur eine Theorie der Zeugung. Jena, 1884.
Weissmann. Ueber die Uerebung, Jena, 1884.
——Continuität des Keimplasmas, etc., Jena, 1885.
Kölliker, A. Die Bedentung der Zellenkeme für die Vorgänge der Vererbung. Zeitschr. für wissensch. Zool., xlii, 1–46.

[3] N. Pfeiffer. Locomotorische Richtungsbewegung durch chemische Reize. Untersuch. aus der bot. Inst. Tubingen. Bd. 1. Hft. 3, 1884.

[4] J. Dewitz. Ueber Gesetzmassigkeit in der Ostsveränderung der Spermatozoon und in der Vereinigung derselben mit dem Ei. Pflüger's Arch., xxxviii, 658–385. Taf. iv.

GROWTH OF TISSUES.

The discovery that in most cases cells divide by an indirect process enables us to study the growth of tissues in a new way. The so-called karyokinetic figures (mitoses of Flemming), as the nuclei in process of indirect division are called, are very distinct and distinctive; and many of the stages of these figures enable us to recognize in what axis the division is taking place. Hence by the microscopic examination of suitably prepared tissues, especially of embryonic structures which are growing rapidly, we can readily ascertain in what parts the cell proliferation is most active, by merely counting the number of karyonetic figures, and we can also by noting the planes of division determine the direction of growth. It is evident that we have thus opened up to us, an important field of research, all the more welcome because we have so few ways of advancing our knowledge of growth, which is one of the fundamental and to us most obscure of vital phenomena.

A beginning in this direction has been made, which gives somewhat unexpected results in regard to the growth of the central nervous system. The first observations were those of Altmann,[5] which I know only from various abstracts. Next follow the investigations of Uskow,[6] and of Pfitzner,[7] and the incidental observations of Vignal.[8] More important are the results published by Koganei,[9] but the chief paper is that by Merk,[10] which is very excellent. Rauber, who published a short note[11] on the subject in 1882, has recently recurred to it in an article[12] not yet completed. The following may be considered as the essential results thus far reached. In all that part of the ectoderm, which forms the medullary groove, that is to say, in the walls of the medullary canal and its derivatives (especially the optic vesicles) the production of cells takes place almost exclusively during the early stages next to the originally outer surface, that is next the lumen of the canal. Not only this but the cells divide nearly all in planes parallel to the surface. Hence when the wall grows in thickness the cells move from their original sites outward. In fact the growth involves two distinct processes, 1st, the production; 2, the migration of cells. That epithelial cells move among their fellows is not a new fact; for example, Balfour has shown that part of the early growth of the ectoderm must be accounted for in that way; and Kupffer has described a similar process among the cells of the primitive streak in vertebrate ova. The layer of cells next the cavity of the central nervous system must be regarded as the matrix from which all the cells arise. In somewhat older embryos the distinction is lost and the karyonkinetic figures with their axes variously turned are formed through the whole thickness of the wall. In the youngest embryos studied by Merk the cerebellum was characterized by cell divisions going on throughout it; probably in earlier stages it was like the rest, and has merely changed its manner of growing precociously, the other parts copy the alteration later.

[5] Altmann, Ueber embryonales Wachsthum, Leipzig, April, 1881.
[6] Uskow, Arch. fur mikrosk. Anat., xxi. 293.
[7] Pfitzner, Arch. fur mikros. Anat., xx. 127.
[8] Vignal, Arch. Physiol. Norm. Pathol., Ser. iii. T. iv. p. 177 v. 364.
[9] Koganei, Untersuchungen ueber die Histiogenere der Retina. Arch. fur mikros. Anat., xxiii.
[10] L. Merk. Neber die Anordnung der Kornntheilungsfiguren im Centralnervensystem und der Retina bei Natter embryonen. Sitzungsber, Wien. Akad., Bd. xcii. avth. iii. s. i.
[11] Rauber, Sitzungsber, Naturforsch Ges., Leipzig, 1882.
[12] Rauber, A. Die Kerntheilungsfiguren im Medullarvohr der Wirkelthiere. Arch. fur. Mikrosk. Anat., xxvi. 622—644, Taf., xxxi.

STRUCTURE OF THE NERVOUS SYSTEM.

There are two subjects we wish to notice under this head; 1st, the origin of the nerve fibres; 2d, the structure of the neuroglia.

It has been suggested by Hensen[13] that the nerves fibres are persistent connections left between the cells during the process of growth, but His[14] and others have maintained that the nerve fibres actually grow out from the cells of the central nervous system, (medullary canal of the embryo), to their ultimate destination. Kölliker[15] now advocates the very same view in consequence of renewed observations on the development of the nerves in the tail of tadpoles, the very object on the study of which Hensen based his view. Kölliker remarks that the number of nerve fibres and of the branches and anastomoses thereof increases with the age of the animal, they being at first so few in number that it is evident that the innervation of the most part must be developed later, there not being branches enough at first to supply the terminal organs, which are ultimately furnished with nerves. Kölliker also shows that the medullary sheaths are developed from cells of the mesoderm (embryonic connective tissue) each cell forming one of Ranvier's segments.

Our knowledge of the neuroglia has been greatly advanced by the fine researches of Gierke, which are a veritable model of laborious thoroughness. We cannot do better than condense Eberth's abstract:—"The supporting substance of the central nervous system is not to be described as connective tissue, since it is histologically and embryologically distinct therefrom. It arises from the same formative cells of the ectoderm as the ganglion cells, and consists of basal substance and of cells with their processes. The first is of homogeneous, structureless, and of soft but firm consistency. The molecules ascribed to it do not exist. Its origin is unknown; it is perhaps produced as an excretion of the neuroglia cells, or by their metamorphosis. The cells all arise similarly from the round cells of the ectoderm; some from the originally ciliated lining of the medullary cavity, but the majority undergo cornification. The protoplasm of the body of the cells and their processes and frequently, perhaps always, the nuclei also are changed into a characteristic horny substance, the neurokeratin, the change varying in the age at which it occurs and in its intensity. The nuclei may partly or wholly atrophy or change in the same manner as the cells producing unnucleated glia cells. Traces of nuclear division are not rare. The neuroglia form two layers without nervous elements, one against the inner cavities (ventricles, etc.,) and the other upon the outer surface; between them is a network of glia cells, the interstices of which hold the nervous elements.

"The smaller nerve cells and the finer nerve fibres lie in the meshes of this general framework, and are sufficiently enveloped and supported by it. The larger nerve elements have special envelopes; each of the larger nerve fibres and cells lie in a felted sheath formed of glia cells and their processes. In the white substance these processes form the chief framework, but in the gray substance there is neuroglia between these special sheaths. With rare exceptions

[13] Virchow's Arch., 1864, xxxi, 51, and Arch. f. mikros. Anat., 1868, iv, iii.
[14] His. Ueber das Auftrehen der weissen Substarrz, etc., Arch. Anat. Physiol.; Anat., Abth, 1883, 163-170.
[15] Kölliker, Histologische Studien au Batrachierlawen. Zeitsch. f. wirsensch. Zool., xliii, 1-40; Taf., i-ii.

there are no cells without processes and no isolated granules.

"The distinction between the spongy and gelatinous supporting tissue of the spinal cord is in so far not justifiable that the structure is the same in both; the differences are only quantitative; in the spongy portion the glia cells are not numerous and their processes form wide meshes; in the gelatinous portion the glia cells are crowded together and their processes form a very fine reticulum. (Gierke gives a detailed account of the neuroglia in the different parts of the nervous system, for which we refer to the original).

"The neuroglia also forms the lymphatic channels for the lymph produced by the neural elements, and participates in the formation of the collecting spaces for the outflowing liquid. The lymph spaces are in part simple cavities in the basal substance, in part walled in by glia cells. Their beginnings are bordered by the nervous elements and the basal substance; of these beginnings, the most important are the peri-cellular spaces, which open into the perivascular channels or into the space between the outer neuroglia layer and the pia mater. The lymph-vessels proper have a separate endothelial lining."

HUMAN EMBRYOLOGY.

It would be pleasant to do full justice in this report to Prof. Wilhelm His's great work, Anatomie Menschlicher Embryonen, but our space renders it impossible to do more than indicate a few of its many excellencies and a few of the numerous results of the long continued researches of the author. The third part, published in 1885, is devoted to the history of the organs, and comprises two hundred and sixty pages of text in 8vo, and a set of large folio plates. The foundation of Prof. His's success, is his method;— the reconstruction of the anatomy from the sections,— a method the character and importance of which was sufficiently indicated in our report for last year. By this means the anatomy of embryos, altogether too small to be dissected, may be exhaustively worked out, and by geometrical reconstructions, accurate pictures of the organs obtained. In this way Prof. His has investigated no less than thirty-two embryos, varying in length from 2.15 to 22 millimetres.

He gives a series of pictures and descriptions of the results obtained from the study of this unique series of embryos, which carry our knowledge so far that it seems to me not too much to say that owing to the labors of His, we are now more thoroughly acquainted with the anatomy of the human embryo than with that of any other vertebrate species; anterior to His's work our acquaintance with human embryology was excessively meagre. Very remarkable for their minute accuracy and beauty are the large figures of entire embryos, while the series of figures of Plate X, of normal development, supplies most satisfactorily a long-felt want.

The topics dealt with in Part III, are the development of the intestinal canal, of the mouth, nose, palate and face; the history of the pharynx, including the gill arches, tongue, epiglottis, lungs, thyroid and thymus; the disposition of the cephalic nerves in the embryo, and the metamorphoses of the heart, together with those of the aortic and venous systems; the development of the external ear, and finally that of the umbilical cord.

In each and all of these chapters are additions to embryological knowledge of fundamental importance, and often the traditional descriptions of the course of development of a part is shown to be altogether erroneous; as for instance, in the case of the thymus gland, which is traced to the ectoderm covering the posterior bronchial arches; or again, still more remarkably in regard to, the whole one is tempted to say, history of the heart. In short, Prof. His's monograph is the most important investigation in mammalian embryology since the time of Bischoff's memoirs, which were published from twenty-five to forty years ago, and I think that it has never been surpassed, perhaps never even equalled in extent and in exhaustive thoroughness and accuracy by any embryological investigation.

Another very important contribution to human embryology is Fol's description of an embryo, of 5.6 mm., published not long since in the first volume of the *Receuil Suisse de Zoologie*. A summary of the earliest stages known, is given by Minot in the *New York Medical Journal* for August 22, and October 10 and 17, 1886.

Hospital Practice and Clinical Memoranda.

A CASE OF CONCEALED ACCIDENTAL HÆMORRHAGE.[1]

BOSTON LYING-IN HOSPITAL, SERVICE OF DR. W. E. BOARDMAN.
REPORTED BY EDWARD REYNOLDS, M.D., *House Physician*.

The patient was a mulatto, twenty years old, and a primipara. On the 9th of February, after a normal pregnancy, she stumbled against the back of a chair and received a slight blow on the upper part of the abdomen, which, however, was followed by no pain or inconvenience.

Labor began at midnight on the 12th of February, that being the date at which she had expected her confinement. She entered the hospital at 7 A.M. of the 13th, when the following account was entered in the records. Presentation, head. Position, O. L. A. Os uteri dilated to about the size of a silver dollar. Fœtal heart 140, left and below, very loud and distinct. Pelvis roomy. Head not large. Pains moderate and regular.

Labor progressed steadily and easily. The os became fully dilated at 9.15 A.M., and the membranes were ruptured manually a few moments later.

The head descended rapidly through the pelvis and engaged in the inferior strait. Everything promised a rapid and easy normal labor, when at 9.30 A.M. the patient sighed deeply two or three times, and asked to be fanned. The lips rapidly became somewhat blanched; the pulse was rapid and somewhat feeble; the respirations became shallow and irregular, the woman complained of faintness and began to toss about upon the bed.

On examination of the abdomen, I found that at the fundus of the uterus, and especially on the right side, the breech of the child could no longer be found, but was replaced by an ill-defined mass, along the edge of which an extremity could be felt. This mass was distinguishable from the breech by its greater breadth, by its flattened form, and by a somewhat boggy sensation

[1] Read, by invitation, before the Obstetrical Society of Boston, March 13, 1886.

which it yielded to the touch. On auscultation, the fœtal heart was found to be rapid and feeble, in marked contrast to its condition but a short time before.

A rapid etherization was at once begun. During the administration of the ether its primary stimulant effect was well marked, the maternal pulse becoming full and very slow. Meanwhile the tumor increased slightly in size and distinctness, and the fœtal heart became even more rapid and feeble than before.

Forceps were applied and the child rapidly extracted, the woman's pulse failing so much during the operation as to be barely perceptible at the time of delivery.

The child was born somewhat asphyxiated, but a little slapping and the application of ice to the back of the neck provoked respiration, and it cried well without any further treatment.

The cord was twenty-four inches long, and not coiled about the child; it pulsated feebly at birth, but stopped almost immediately.

Nothing abnormal was detected in the placenta.

No blood followed the delivery, but the uterus, though followed down by the hand remained soft and larger than a child's head, and at the first effort of expression, the placenta was thrown forcibly into the bed, and a large quantity of blood was driven out with such violence that it struck the wall of the room, four or five feet distant, and covered everybody in the neighborhood.

Evidently the blood had been confined by the margins of the placenta until they were loosened by a manual attempt at expression.

Considerable post-partum hæmorrhage followed, but was readily controlled by an intrauterine injection of corrosive sublimate, 1-2500 in equal parts of vinegar and hot water.

The mother's condition was by this time very poor, the face blanched, the pulse just perceptible.

The foot of the bed was raised, heaters applied, and brandy and ether given subcutaneously; fifteen minutes later, brandy and ergot were given by the mouth, and retained.

The uterus showed a decided tendency to relax, and was guarded by the hand till nearly midnight, more than fourteen hours after delivery; ergot being given every few hours, while brandy, carbonate of ammonia, and milk and eggs were taken in small quantities every few minutes.

She slept six hours that night, and was in fair condition in the morning.

The further history of the case is that of rapid recovery. The temperature was steadily normal, she gained strength very rapidly, had sufficient milk for the child, which did thoroughly well, and was ready for discharge on the fourteenth day, mother and child well.

There were present three out of the four cardinal symptoms of concealed hæmorrhage, namely, unexplained collapse of the mother, enlargement of the uterus, and disturbance of the fœtal circulation, while the absence of the fourth sign, pain admits of explanation.

The remaining symptoms which are described as diagnostic of this accident, namely, the absence or feebleness of the pains of labor, bloody liquor amnii, and the escape of small quantities or blood or of bloody serum from the vagina, are inconstant, and only occur when the condition has been allowed to go on unrelieved for a long time, and consequently were not to be expected in this case.

This differed from most cases of concealed hæmorrhage in two particulars; first, in the occurrence of the hæmorrhage so late in labor; and second, in the absence of the intolerable pain, which is described as an almost constant symptom.

With regard to the first point, I have been able to find only one recorded case in which the hæmorrhage occurred after the completion of the first stage of labor, and in that one case, though the os was fully dilated, the head had not passed the superior strait.

I think that this fact of the occurrence of the hæmorrhage late in labor may explain the absence of pain; for the pain being of a stretching, bursting character, usually referred to the site of the placenta, and due to the overdistention of the uterus, I think it becomes an interesting question whether its absence was not due to the fact that the uterus had been already partially emptied of its contents by the escape of the head into the pelvic cavity, and could consequently allow the presence of a moderate amount of blood without undue distention.

Reports of Societies.

PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. M. GREEN, M.D., SECRETARY.

MARCH 13, 1886. DR. COTTING, and subsequently Vice-President DR. DOE, in the Chair.

DR. EDWARD REYNOLDS reported, by invitation,

A CASE OF CONCEALED ACCIDENTAL HÆMORRHAGE.[1]

DR. BOARDMAN wished to thank Dr. Reynolds for his prompt and successful treatment of the case. The results in such cases are usually bad. In this instance the favorable result was in a manner due to the fact that the head was sufficiently low in the pelvis to admit of rapid extraction.

DR. J. P. REYNOLDS said that in this case the amount of hæmorrhage was apparently limited by the margin of the placenta; if the placental margin had burst, the hæmorrhage would doubtless have been much greater. In reply to a question he said that in his experience electricity acted efficiently to make the uterus contract post partum, even when the loss of blood had been great.

EXTREME METEORISM RELIEVED BY ELECTRICITY.

DR. JOHN HOMANS, present by invitation, spoke of a case of extreme meteorism after hysterectomy, in which the abdominal distention embarrassed respiration to an alarming degree. Puncture with needles afforded no relief; and placing the patient in a half-sitting position had no effect in promoting the escape of gas upward. He then used a battery with satisfactory results, the electricity causing the intestines to contract and expel the flatus.

DR. BLAKE said he not only used acupuncture of the intestines to relieve meteorism; but, when this failed, employed the aspirating pump with satisfactory results.

DR. BOARDMAN reported two cases of

TEDIOUS LABOR, WITH REMARKS ON ITS CONDUCT.

DR. STRONG said that he had no doubt but that life would be saved in many cases by more prompt de-

See page 463.

livery: he thought that if brandy is given before ether, the vomiting is aggravated.

Dr. Blake quoted Goodell as recommending more speedy delivery in tedious cases, and thought better results were obtained thereby. In his own practice if, after rupture of the membranes, the os does not dilate in from four to six hours, he uses ether and dilates the os with dilators or with the fingers. He would prefer not to use ether soon after chloral, and would stimulate in such cases before giving ether.

Dr. J. P. Reynolds said that chloral and ether could be used consecutively with good effect; but after having given sixty grains of chloral, he would wait an hour before giving ether. He thought when the os acted as it did in the cases reported, it meant fatigue and distress, mental or otherwise. In such cases he would give opium to make the patient comfortable, and would use ether in small quantities for a long time; he would dilate the cervix under ether with fingers or water bags, and when the os was dilated would use forceps. He believed in the abolition of conscious suffering, be it to use opium, ether, or forceps; and if one would not use forceps, he should at least use ether.

Dr. John Homans reported, by invitation,

A CASE OF EXTRA-UTERINE PREGNANCY OF SEVEN YEARS DURATION: OPERATION.[2]

Dr. E. G. West, present by invitation, alluded to another case of his of extra-uterine pregnancy, which had been reported to the Society by Dr. Chadwick,[3] in which the result was better, the tumor having ceased to be felt after the use of electricity. He also spoke of the great amount of fæcal accumulation in the case reported by Dr. Homans, and of the difficulty of removing it.

Dr. Lyman said that to relieve an impacted rectum no method could be better than that employed by Dr. West. When a large amount of water is used, the water passes by the fæcal mass and distends the intestine above; this distention induces intestinal contraction, and the fæces are thus forced out of the rectum.

AMERICAN SURGICAL ASSOCIATION.[1]

THIRD DAY, APRIL 30.— AFTERNOON SESSION.

The discussion of Dr. Keen's paper was taken up.

Dr. B. A. Watson said that the thorough character of the paper left little to be said. This is a comparatively recent operation and one with which we are not as yet perfectly familiar. Very little is known of the changes to which the cure is to be attributed; that nerve stretching is advantageous in neuralgia and in certain cases of epilepsy and certain spasmodic convulsions he thought had been demonstrated. Whether the relief is due to the gross changes in the nerve, to molecular changes, or to both has not been thoroughly determined. In this particular case it would seem that elongation of the nerve possessed advantages over neurectomy. Neurotomy even in the successful cases gives but temporary relief. The relief in these cases has usually been of only a few days duration, or a few weeks, and at best, only a few months. Neurectomy has given better results and although, as a rule, the results are only temporary, the relief may continue for a number of years. In neurectomy the relief appears to have been directly proportional to the amount of nerve removed. A longer period of relief has been secured after elongation than after neurotomy. In the case reported, the neuralgia appears to have been of central origin, and it seems almost marvellous that the relief afforded should have been so great. He could only commend the paper and the operation, and particularly the means employed for finding the nerve.

Dr. W. W. Keen, referring to the question of the way in which nerve stretching produces its effects, thought that a large part of the effect was due to the gross mechanical disturbance of the nerve trunk, interfering with nerve conduction, a large element being the physiological rest which is secured to the muscle, and which at the same time aids in breaking up the vicious habit. He presumed that the nutrition of the nerve is also affected in this case, though there was no direct influence upon the centre. The relief to the facial spasm and to the beginning convulsive movements in the right side and leg, were as surprising to him as they were to Dr. Watson. Certain it is that for twenty-five days the patient had been entirely free from any inconvenience.

The discussion was also participated in by Dr. Prewitt and Dr. Roberts.

SUBCUTANEOUS DIVISION OF URETHRAL STRICTURE.

By Dr. C. H. Mastin, M.D., of Mobile.

The history of the operation for external urethrotomy was first considered, and next were described the various methods which have been proposed for its performance. The objections to these were then gone into at length. The main objection to most of them is that they leave an open wound in the perineum to heal by granulation.

External urethrotomy is called for only under special circumstances. It has been laid down as a rule that where water can escape through a stricture the surgeon should always by patience be able to get an instrument through the stricture. The speaker thought that there were exceptions to this rule.

The indications which render the operation necessary are:

(1) The impossibility of passing a sound into the bladder through the urethral canal, where a firm organic stricture blocks up the urethra and dilatation or internal urethrotomy is not available.

(2) In cases where a tight stricture has ruptured and an abscess has formed. Under such circumstances it is necessary to open the abscess, and it may be well to carry the incision further and lay the stricture open.

(3) Certain cases of old tight stricture complicated with urethral fistulæ through which the urine is passed in the act of urination. In almost all these cases, however, as soon as the lumen of the tube is restored, the fistulæ heal. The writer prefers internal section in such cases.

(4) A most important indication which may arise is rupture of the urethra by a blow, the effects of which are violent and severe.

(5) Traumatic stricture, that is, where the stricture is the result of direct injury to the urethra. In these cases ordinary dilatation is inefficient, and internal urethrotomy is often of little or no benefit.

[1] Concluded from page 449.

[2] See page 457.

[3] See Vol. CXI, No. 11, page 250.

(6) A calculus impacted behind stricture may be an indication for an external section.

(7) When extravasation of urine has occurred from sudden rupture of the urethra, followed in a short time by extensive sloughing of the penis, scrotum and groin.

(8) The last indication is one in which Mr. Reginald Harrison recommends combined external and internal urethrotomy with the introduction of a large tube.

Having decided that external section is required, the question is, which operation gives the best prospects of success and is most readily performed. The claims of the various operations proposed were then considered.

The author next described the operation which he had employed with entire satisfaction since 1868. The patient being properly prepared is put in the ordinary position for cystotomy. An anæsthetic is administered. A tube, open at both ends is passed down to the stricture. This protects the walls of the urethra and puts on the stretch the face of the stricture. The tube is then filled with small whalebone probes and one after another is tried with the hope that one will enter the stricture. This being accomplished the tube and probes are removed. The probe engaged in the stricture is then pushed forward and a Wheelhaus sound carried down to the stricture. An incision one-half inch in length is then made in the anterior wall of the urethra on the groove of the sound. The sound is withdrawn a short distance and the whalebone bougie sought for as it passes through the stricture and drawn out of the original wound. Over the probe a gorget is passed having its blade upwards. This is passed downwards cutting the stricture on its superior face. A catheter is then passed along the entire urethra into the bladder and the urine evacuated. The stricture is then examined to determine whether or not any points of narrowing still remain. If so, they are divided.

If, in the first instance, it is found impossible to pass the whalebone bougie, a staff with a deep groove is passed to the stricture and a small opening made. A whalebone bougie is then passed through the stricture and the operation is completed as in the previous case. After operation a full-sized ordinary soft catheter is introduced to the prostatic portion of the urethra, but not into the bladder. The patient is put to bed on the left side and directed to push the catheter into the bladder when the desire to urinate is felt, and to withdraw it beyond the neck of the bladder, but not through the stricture after the urine has been passed. This is used only for the first twenty-four or thirty-six hours to protect the wound from the contact of the urine. The speaker was opposed on general principles of allowing a catheter to remain in the bladder; at the end of the time mentioned the catheter is dispensed with. Immediately after the stricture has been incised and the calibre of the urethra restored, the external wound is closed with three fine pins, passing sufficiently deep to grasp the walls of the urethra. These are removed in from four to six days. In the course of eight or ten days the patient is able to return to his work. The maximum calibre of the urethra is restored by the use of graduated sounds.

The advantages of this operation are, the short time of confinement for the patient, the freedom from hæmorrhage, the quick union by primary adhesion, and the small amount of cicatricial tissue left.

DISCUSSION.

DR. N. P. DANDRIDGE, of Cincinnati, had had no experience with the operation described by the author of the paper, but with the majority of his conclusions with reference to external urethrotomy, he agreed. In regard, however, to cases of stricture with urethral fistula, he thought that unless the stricture be recent, not indurated and particularly not multiple, in the majority of cases external urethrotomy should be the rule, not denying that in some cases internal urethrotomy may be a proper operation. He believed that too much stress had been laid upon the danger of making the incision upon the floor of the urethra. In many cases there is an advantage in the incision in the floor of the urethra, for it often happens that there is found the thickest portion of the stricture. Another disadvantage is that the operation requires special instruments for its performance. Reference has been made to the rapid healing after this operation as an advantage. It is sometimes advantageous in those cases where some cystitis has developed, to leave the opening patulous for a time.

DR. DAVID PRINCE, of Jacksonville, Ill., remarked that it was with great diffidence he rose to speak on this subject on account of the small number of cases which he had treated. He had, however, seen enough cases to give him confidence in a particular method of treatment. About twelve years ago, he became aware of the power of the negative pole of a battery to resolve neoplasms, and had applied this principle with success to the treatment of stricture of the urethra. A catheter connected with the negative pole of the battery is passed down to the stricture and the circuit completed by placing a sponge electrode connected with the positive pole over the sacrum so that the distance between the two poles would be as short as possible. This treatment is frequently repeated, and in a number of cases he had obtained entirely satisfactory results.

DR. DUNOTT said that his experience in dealing with so-called impermeable or impassable stricture has not been small. He had been able to deal with them even when there was great induration, almost without exception by the ordinary internal urethrotomy operation. In fifty or sixty cases he had been compelled in but one or two instances to perform external section. He thought that the main reason that external urethrotomy is so frequently necessary is want of patience on the part of the surgeon. He believed that almost without exception where one drop of urine will pass through the urethra, a guide can be gotten in, provided the surgeon has the patience to wait for it.

DR. J. EWING MEARS offered an amendment to the by-law providing for the appointment of a committee of five, of which the president shall be chairman, to have charge of the preparation of the scientific work of each Session.

Laid over until the next meeting.

The President announced the following committee on the proposition, looking to the formation of a Congress of American physicians and surgeons: Drs. C. H. Mastin, Charles T. Parkes, J. Ford Thompson, J. Ewing Mears and N. Senn.

The officers elected were as follows:

President, Hunter McGuire, M.D., of Richmond, Va.

Vice-Presidents, T. F. Prewitt, M.D., of St. Louis, and J. W. Gouley, of New York.

Secretary, J. R. Weist, M.D., of Richmond, Ind.
Recorder, J. Ewing Mears, M.D., of Philadelphia.
Treasurer, P. S. Conner, M.D., of Cincinnati.
Council, Drs. Hunter, McGuire, John S. Billings, L. McLane Tiffany, R. A. Kinloch and Moses Gunn.
Honorary Members, Foreign, Sir William McCormac; American, Prof. Henry J. Bigelow.
Active Members elected, Drs. H. H. Mudd, of St. Louis, and Joseph Ransohoff, of Cincinnati.
Time and place of next meeting, the second Wednesday of May, 1887, at Washington.
Adjourned.

AMERICAN MEDICAL ASSOCIATION.
SECTION ON PRACTICE OF MEDICINE, MATERIA MEDICA, AND PHYSIOLOGY.

J. F. WHITTAKER, M.D., OF CINCINNATI, OHIO, CHAIRMAN; B. L. COLEMAN, M.D., OF LEXINGTON, KY., SECRETARY.

The first paper presented was entitled,

THE ÆTIOLOGY OF DISEASE.

It was read by the author, Dr. Alfred C. Haven, of Lake Forest, Illinois.

Acknowledging the difficulty in framing a satisfactory definition, and insisting upon the essential identity of life in plant and animal, he recognized the evidences of law in the different forms assumed by protoplasm. Disease is of external origin, but may be transmitted by heredity; many of the causes have been traced to zymotic germs. In order to further science, the author recommended the performance of physiological experiment upon criminals.

In the succeeding discussion, opposing views were expressed. Dr. Wetmore, of Illinois, denied the active agency of bacteria; Dr. Bremen, of St. Louis, warmly defended it; and Dr. Lynch, of Baltimore, Md., believed that the microbes may be only the common carriers, or many of them may be the results, and not the causes, of disease. No difference can be detected by the microscope between an inflamed gland, and a scrofulous gland prior to caseation. The bacteria accompanying the caseous process in tubercle, if at all connected with it, are secondary, and not causative.

The next paper was on

THE EFFECT OF CERTAIN PHYSIOLOGICAL PRINCIPLES THAT HAVE BEEN NOTICED IN AID OF THE CIRCULATION OF THE BLOOD.

By Dr. Frederick N. Huston, of Rockland, Maine.

In the absence of the writer of the paper, it was read by Dr. Francis E. Hitchcock, of the same place. The idea of the paper was, that the cohesive force of the vessels exerted upon the blood, was an active force in carrying on the circulation. This explains the aspiration of air into a large vein when it is opened. The respiratory movements of the chest walls also draw the blood to the heart. He had found that, when giving a hypodermic injection, the danger of introducing air into a vein is diminished by directing the patient to hold his breath for the moment.

ESSENTIAL VERTIGO

was the subject of the next communication, made by Dr. L. Bremen, of St. Louis, Mo.

Apart from symptomatic vertigo, accompanying gross lesions of nervous system, stomach, or special senses, may be considered the vertigo which may occur in a person who otherwise enjoys sound health. This has been called by Nothnagel, Essential Vertigo; in the present state of our knowledge, it is to be classed with nervousness. The patient is generally, though not always, more or less anæmic-looking, debilitated, and nervously exhausted by overwork or disease. The attack of vertigo may have come on suddenly, or after certain premonitory signs, while walking, sitting, or lying down, during the day or night, often in the midst of apparent perfect health. At other times, upon the supervention of slight ailments, acute catarrh, indigestion, or other troubles of the system. The victim of the attack feels as if his full strength had dropped away from him, as if the ground were drawn from under him. He is at sea, unstable on his legs, and, as if on board a ship, he straddles, in order to enlarge his base of support, or grasps at near objects. In severe cases, he actually falls to the ground, but this is done in coördinated measure, unlike any epileptic attack. If the attack be a severe one, and the patient be not yet accustomed to vertiginous feelings, a very striking symptom is the intense terror, a vague fear of becoming paralyzed, or dropping suddenly out of existence. Generally speaking, essential vertigo comes in by spells, the whole attack lasting only a few minutes. Sometimes, however, cases occur in which the patient is unable to return to daily employment, or to do anything at all for weeks, or even months. Such patients are apt to be nervous and impressionable. A lowered tone of the whole nervous system, presenting often unequivocal neurasthenia in its manifold manifestations, is met with in all cases of confirmed vertigo, either as a cause or result, or both.

Equilibration is the result of a special mechanism, not confined to one centre, but composed of a complex apparatus, consisting of a very different and specialized nerve element, the harmonious co-operation of which constitute the balancing power. In short, there are a number of balancing or equilibrial centres, corresponding to a number of equilibrial peripheral nerves. An injury, or functional impairing of any part of this mechanism, central or peripheral, will be followed by incoördination, that is, vertigo.

There is, consequently, a vertigo of peripheral, and one of central origin. It is the latter, which, in the absence of coarse lesions, constitutes essential vertigo. It probably depends primarily upon vaso-motor disturbances, which secondarily gives rise to weakness and irritability of the cells of the equilibrial centres. These centres, situated in the mid-brain, are nourished by branches of the basilar artery. A spasm of this artery, or any of its branches, determines impairment of nutrition, and consequently, of function of the equilibrial cells. By repeated attacks of such angio spasms, there is set up a permanent weakness of these centres. Hence the apparent aural, ocular, or gastric vertigo, in the nervously exhausted who are free from organic diseases. Vertigo, also, may be connected with vaso-motor disorder in the cerebral cortex, or in the medulla oblongata. It is also one of the commonest symptoms of structural disease of the cervical portion of the spinal cord. The form of vertigo may vary with the locality of the disturbance. In the treatment, the greatest stress was laid upon dress, diet, regulated exercise; alcohol was considered a valuable agent in palliating the symptom.

Dr. O. F. Schultz, of Mt. Vernon, Indiana, read a paper on the

USE OF SO-CALLED ANTIPYRETIC DOSES OF QUININE IN PNEUMONIA.

In typhoid pneumonia, quinine not only reduced temperature, but exercises, also, a favorable influence upon the course of the disease. He advocated early administration as soon as typhoid symptoms appear, and in most cases, it should be begun on the fifth day of disease, in doses of fifteen to thirty grains, given every evening, if the temperature be over 102°. If the heart should be weak, the dose is to be preceded by brandy or whiskey.

SECOND DAY.

DR. S. L. LAWS, of Columbia, Mo., read a communication entitled the

LIFE AND LABORS OF LOUIS PASTEUR,

which recalled the "Histoire d'un Savant par un Ignorant" of Pasteur's son-in-law.

THE DIAGNOSTIC VALUE OF THE KNEE PHENOMENON, OR THE PATELLAR-TENDON REFLEX, IN DISEASES OF THE NERVOUS SYSTEM,

was the subject of an interesting paper by PHILIP ZEUNER, M.D., of Cincinnati, Ohio.

Erb and Westphal simultaneously called attention to this phenomenon in 1875. It is present in health, and diminished or absent in posterior spinal sclerosis, anterior poliomyelitis, and neuritis. When the lumbar portion of the cord, or its nerves, are the seat of disease, it may also be absent; also in diabetes mellitus, or temporarily during chronic alcoholism, or after diphtheria.

As to the uniform presence of the phenomenon in health, authorities are not agreed. The author, after examining 2,106 persons, mostly in apparent health, found that the knee phenomenon was abolished in two hundred and eighty-one, five of whom had fully-developed ataxia, and twelve were in the earlier stages of the disease. Out of twenty-eight cases of insanity with abolished knee phenomenon, ten were cases of general paralysis, and in two, it was doubtful whether or not general paralysis was present. In many cases of general paralysis and locomotor ataxia, we have reflector rigidity of the pupils, and they do not respond to light. In 4,000 insane, 492 had rigidity of the pupils, 85 had general paralysis. Nine out of ten of the reported cases of general paralysis, had pupil symptoms; one out of two of the doubtful cases; and only two out or the eleven other cases.

The knee phenomenon, in 932 sane persons, was found absent in five only, two of whom had healthy spinal cords. He had not found it absent too often in diabetes mellitus, as some have asserted. In chronic alcoholism it is rarely absent, and can be restored by strychnine. It is not always absent in locomotor ataxia, especially in the early stages of the disease.

DR. JOSEPH JONES, New Orleans, read a paper on

SOME PRACTICAL OBSERVATIONS ON THE RESULTS OF MEDICAL TREATMENT IN THE CHARITY HOSPITAL AT NEW ORLEANS, LA., DURING SIXTEEN YEARS, 1869–86.

This statistical paper did not admit of being abstracted. It dealt largely with malaria as a factor in disease production.

POTASSIUM CHLORIDE

was the subject of a brief paper by A. F. PATTEE, of Boston, Mass.

After considering the different physiological relations of the potassium and sodium salts, the former being found largely in the solids, and the latter in the fluids, he dwelt upon the value of the potassium salt as a tissue food. He said that a marked increase of muscular tissue would result from the administration of twenty-grain doses of chloride of potassium three times a day. He had used it with excellent effect in anemia, giving five grains every three hours. Cirrhosis of liver, stomatitis are favorably influenced; neuralgia, menstrual headache and morbid wakefulness relieved by its use. It may be given in combination with corrosive chloride of mercury, or tincture of chloride of iron.

DR. JOHN A. OCTERLONY, of Louisville, Ky., read a paper describing a case and giving the differential diagnosis and clinical aspects of

RENAL CANCER.

A volunteer paper was presented by J. W. MCLAUGHLIN, M.D., of Austin, Texas, entitled

RESEARCHES IN THE ÆTIOLOGY OF DENGUE.

The epidemic of dengue which prevailed throughout the State of Texas during the fall of 1885, was unusual in many respects, for example, in its universality, (2) in the violence of its symptoms, (3) in its manifest contagiousness, (4) in the protracted convalescence of its subjects, (5) in its hæmorrhagic tendencies, and (6) in its numerous sequelæ.

From Galveston, located in the south-eastern portion of the State, it spread in the course of a few months to its northern border. During this time almost every city and many of the country districts within these limits, fell under the epidemic influence of this disease.

In the city of Austin about sixteen thousand cases of dengue occurred during this time, out of a population of about twenty-two thousand inhabitants. I am informed that other sections of the State suffered as severely, that is, had as many cases in proportion to population as did Austin.

Many cases where direct contagion was the cause of this disease came under the observation of the writer. There can be no doubt that by this means it was carried and spread from one neighborhood to another, and from the city to the country by infected individuals.

The violent type of the disease, the protracted convalescence of its victims, and its many sequelæ were unusually prominent in this epidemic, the first by the suddenness of its invasion, often with an initial chill, its pyrexia, its excruciating pains, nausea, and the constancy of its exemthemata. The second, by the mental and physical prostration which follows its defervescence; this often continues for weeks or months with anorexia and languor. The sequelæ most frequently observed were dysentery, entero-collitis, nephritis, bronchial and gastric catarrh, abscesses, glandular enlargements and eruptions of the skin.

It would seem from the peculiar clinical history of dengue and its epidemic character, that it is a specific disease, that micro-organisms are the source of its infection and that these micro-organisms find in the blood a suitable environment for their growth and multiplication.

In order to determine the correctness of this theory, and if possible to obtain information with reference to the ætiology and pathology of this malady, especially

as medical literature is silent upon these matters, the following investigations were made. First, blood was obtained from living subjects during the various stages of dengue and microscopically examined directly, that is, without the addition of chemical re-agents. Second, after treatment with such agents, namely, glacial acetic acid, with and without dilution, caustic potash in strong and weak solutions, chloroform and ether. Third, the blood was dried upon sterilized cover glasses and subjected to the action of the various staining agents. Fourth, dengue blood obtained from living subjects was introduced into test tubes containing sterilized culture media prepared for this purpose, these were closed with sterilized cotton plugs and kept at 100° F., for the growth and multiplication of those organisms which were contained in the blood. Fifth, blood was drawn directly from the veins of a dengue subject into a series of sterilized glass bulbs united by a capillary glass tube. This was done in such a manner as to effectually guard against the introduction of all foreign germs. The series of bulbs were then put into an incubator and kept at 100°F. Sixth, the matters vomited and urine passed by dengue subjects were microscopically examined.

The following are the results obtained. In the blood examined directly or after treatment with the chemical agents named, stained or unstained, I found, often in great numbers, in the cell elements as well as in the plasma micrococci about 1-20 to 1-30 the size of the red cells, spherical in shape and red or pinkish in color, often surrounded by gelatinous capsules. I always succeeded in growing culture tubes upon the surface of the culture jelly, micrococci and no other form of bacteria, which in size, color, shape and behavior are identical with those seen in fresh dengue blood. The blood contained in the series of glass bulbs was examined; the first bulb at the expiration of six weeks, the other after three months. I found the blood to contain a pure culture of micrococci which in all respects were identical with those previously seen in fresh blood and grown upon culture jelly.

These organisms were also seen in the matters vomited in certain malignant cases of dengue characterized by much gastric catarrh and in the urine passed. In a few cases I found this to contain casts of the uriniferous tubes which were composed of these organisms held together by their gelatinous envelopes; at the end of these casts, where they were less firmly attached or cemented together, the shape, size and color of the micro-organisms were found to correspond with those seen in the blood or grown upon the jelly.

The blood used in these examinations was obtained from many different individuals at different times and places, and during the various stages of dengue. The arm or finger was first thoroughly washed and then treated with a strong solution of carbolic acid. The needle with which the puncture was made was always sterilized by heat just before it was used. The blood was carefully spread by a sterilized platinum wire upon cover glasses, sterilized by heat and then dried by passing these through the flame of a spirit lamp. As thus prepared they were subjected to acids, as glacial acetic, and to a ten per cent. solution of caustic potash, also to chloroform and ether. None of these agents exerted any destructive effect upon the organisms which this blood contained: whilst on the other hand, the cell elements or blood cells, and protoplasmic granules found in the blood, were completely destroyed. It would seem evident that if spherical bodies, uniform in size, shape, color and behavior are found in the blood in certain pathological conditions, and that these bodies can resist the destructive action of the chemical agents named that there must be micrococci, inasmuch as all the blood cells and granules are destroyed by these chemicals. Sterilized cover glasses upon which dengue blood had been dried was subjected to the action of many aniline dyes to obtain, if possible, one for which these micrococci have an elective affinity. After many trials and failures with bismark-brown, vesuvin, fuchsin, aniline-green, picro-carmin, and eosin in various solutions, I succeeded in staining the organisms with methyl-blue in a solution of caustic potash, in a prominent manner. Thus stained, the cover-glass specimens were washed in a one per cent. solution of acetic acid and subsequently in absolute alcohol, without having their color extracted by these decolorizing agents. A better picture is obtained and the relative position of the micro-organism to the blood cells is beautifully shown if this process of extraction is arrested before the blood cells are entirely decolorized. As thus stained, the blood cells are seen faintly stained, whilst their contained micrococci are deeply stained. These schizomycetes were uniformly found in the blood of about forty cases of dengue, the number from which blood was obtained. No doubt they would have been found in other cases if looked for.

CULTURE INVESTIGATION.

Miquel's lichen jelly prepared from beef broth and Irish moss was introduced into chemically clean and sterilized test tubes. These were then plugged with absorbent cotton and subjected to a temperature of 100° F. for one hour each day for seven successive days. When the jelly became solid a small quantity of dengue blood obtained in the manner described, was introduced into the test tube and brought into contact with the contained jelly. Many tubes of the culture meda were thus inoculated at various times and from many different subjects. The culture tubes were then put into an incubator where the temperature was constantly maintained at 100° F.

In every instance tubes thus inoculated showed upon the surface of the jelly at the point of inoculation a white spot elevated above the surface. When a small amount of this was examined under a higher power 1-12 H. I., objective, with Abbe's Illuminator or other suitable sub-stage condenser, showed invariably a pure culture of micrococci which in every respect are identical with those found in dengue blood.

The uniformity of these results in growing pure cultures of dengue micrococci indicates that the matter of inoculation came from a common source, that is, the blood.

These cultures were continued from test tube to test tube for a period of six months in the following manner: A test tube containing sterilized culture jelly was inoculated from one which had previously been inoculated from the blood; a third was inoculated from the second; a fourth from the third, and thus continued through many generations of the micrococci.

During this long period of time the micro-organisms bred true and the cultures remained pure.

In an abstract of this sort it is impossible to give the technique of sterilizing instruments, glass apparatus, etc., or the methods of staining and many other matters necessary to the proper appreciation of the

labors performed or the results obtained in these researches, which were described in this excellent paper.

Papers by DR. S. S. TODD, of Kansas City, Mo., on

ASIATIC CHOLERA AND ITS TREATMENT BY SUBCUTANEOUS INJECTIONS OF WARM WATER,

and DR. J. B. MARVIN, of Louisville, Ky., on

PROGRESSIVE MUSCULAR ATROPHY BEGINNING IN THE LEGS,

were both read by title.

THIRD DAY.

DR. F. H. PATTEN, of the National Military Home, Dayton, Ohio, read a paper on

PNEUMONIA IN THE OLD,

which was not discussed.

DR. HERBERT F. WILLIAMS, of New York, exhibited the Pneumatic Cabinet, and read a paper on

PNEUMATIC DIFFERENTIATION.

The discussion was opened by DR. FLETCHER INGALS, of Chicago, Ill., who spoke approvingly of this method of treating pulmonary disease. The Chairman, Dr. Whittaker, also warmly endorsed this method especially for cases of incipient phthisis, who are unable by reason of want of means to make a change of residence to a region of country more elevated and salubrious than that surrounding a city home.

A paper on

MECONEUROPATHIA,

by DR. C. H. HUGHES, of St. Louis, Mo., and one on

LAWS DETERMINING SEX, DISCOVERED AND DEMONSTRATED BY ORIGINAL RESEARCH,

by DR. ROBERT FUNKHAUSER, of St. Louis, were read by title.

THE AMERICAN MEDICAL EDITORS' ASSOCIATION.

ANNUAL MEETING AT ST. LOUIS, MAY 3, 1886.

THE annual meeting of the Editor's Association was held at the St. Louis Club, 29th and Locust Streets, St. Louis, on Monday evening, May 3d. Dr. Wm. Porter, of St. Louis, was elected Secretary *pro tem.* in the absence of the Secretary.

The President, Dr. H. O. Walker, of Detroit, read the Annual Address. The topic selected was the consideration of some topics connected with medical journalism. He condemned the inflated circulation of specimen and free copies, as the bane of journalism, the *bona fide* subscription list should alone be taken as the evidence of prosperity of a medical journal. Many physicians neglect to subscribe for any journal because they are so liberally supplied with specimen copies as not to need any more, thus working injustice to both editors and publishers who wish to see their subscriptions increase. Regretting the necessity of publishing advertisements of proprietary remedies, attention was called to the fact that as matters now are, it is beyond the power of the editor to comply fully with the Code of Ethics in this regard. "The time is coming and even now is, when medical journalism in America, to be what it should be, in view of the status of medicine in this country, must become more distinctly a business." "The pursuit of literature and the practice of medicine are two separate and distinct callings, either one of which is sufficient to occupy to the utmost degree the capacity of any man, and when it is sought to combine with these the very diverse qualifications of the business man, the chances are that the venture in the interests of which the combination is sought to be made is doomed to failure in the beginning."

The Association next proceeded to the election of officers for the ensuing year with the following result:

President, Dr. J. V. Shoemaker, of Philadelphia.

Vice-President, Dr. Dudley S. Reynolds, of Louisville, Ky.

Secretary, Dr. William Porter, of St. Louis, Mo.

After inducting the newly-elected officers, the Association sat down to a banquet as the guests of the Medical and Library Association. This was the most successful and enjoyable session ever held by the Editor's Association, and established a precedent which will not be allowed to fall into neglect.

THE AMERICAN CLIMATOLOGICAL ASSOCIATION.

THIRD ANNUAL SESSION.

HELD at the Hall of the College of Physicians, Philadelphia, May 10 and 11, 1886.

The meeting was called to order at 3 o'clock, P.M., by the President, WILLIAM PEPPER, M.D., LL.D., of Philadelphia.

The president opened the session with an address on the causes and distribution of consumption in Pennsylvania. The data for this paper had been procured in correspondence with physicians in all parts of the State, and from a study of the public records where they were kept. In the beginning, the speaker referred to the investigations of Dr. H. I. Bowditch, of Boston, with reference to consumption in the State of Massachusetts. The method of Dr. Bowditch was adopted in all its essential features in the prosecution of this inquiry. The author wished the present communication to be considered simply as a preliminary report which he hoped to be able to continue to a greater degree of completeness. The physical characters of the State were then taken up. The data obtained, while not sufficient to warrant any positive conclusions, seemed to indicate that consumption was most prevalent in the counties of low altitude where the rain fall was greater, and that the number of deaths in proportion to the population gradually diminished as higher elevations with a smaller rain-fall were reached, until, when an altitude of two thousand feet was reached, the death rate had diminished to less than one per thousand.

The city of Philadelphia was separately considered. In a period of twenty-six years it was found that there had been sixty thousand deaths out of a total of four hundred thousand deaths, the rate for each year being quite uniform. The rate among negroes was over twice that of the general population. Among the foreign population the death rate was also in excess of the people at large. Deducting the deaths among negroes and foreigners, the true mortality among the American race in Philadelphia, is much lower than is commonly believed. The percentage of deaths from consumption, as compared with the total number of

deaths, is by this method, nine and one-half per cent., as contrasted with fourteen per cent., the rate when all classes are included.

THE EFFECT OF HIGH ALTITUDES ON CARDIAC DISEASE,

by DR. A. L. LOOMIS, of New York.

In the summer of 1880, while at St. Regis Lake, in the Adirondacks, the author was requested to see a gentleman who had just arrived and was thought to be dying. The patient, aged forty years, was found gasping for breath, cyanosed, with no apparent radial pulse and bathed with profuse perspiration. Neither heart sound could be heard. Under the hypodermic use of digitalis, morphia and brandy, he improved. The following day it was learned that he had left New York apparently perfectly well. When he reached an elevation of one thousand feet, the breathing became difficult, and as a higher altitude was reached the difficulty was increased and was accompanied by cardiac palpitation, and a sense of oppression in the epigastrium. When he reached St. Regis Lake, at an elevation of two thousand feet he appeared to be dying. Physical examination showed well-marked dilatation of both ventricles, with a loud systolic murmur heard over the præcordia and transmitted a little to the left. At the end of three days he returned to New York. As he reached lower levels, the difficulty of breathing diminished, and when he reached New York he could walk on a level. The irregular heart action, however, continued, and the feet soon became œdematous, and he died six weeks later with general anasarca and heart insufficiency. No autopsy was made. The patient had never presented any evidence of cardiac disease prior to his trip to the mountains.

The speaker had seen in all twenty-six similar cases, the histories of five of which were given.

The second case was Mr. M., aged fifty-two years, with aortic insufficiency which had never given trouble. He started for St. Regis Lake, but when he reached his destination, the breathing was gasping in character and the pulse could not be counted. There was profuse pulmonary hæmorrhage. Digitalis was employed and gave relief to a certain extent. Examination showed enlargement of the heart, feeble irregular heart action, and absence of the muscular element of the first sound. The urine contained albumen but no casts. He returned to his home on the third day and was much more comfortable. General anasarca supervened and he died suddenly two months later. No autopsy was had.

Mrs. S., aged forty-three, had mitral insufficiency for over ten years, but never exhibited any cardiac symptoms. She went to Colorado. When she reached an elevation of four thousand feet, she was suddenly seized with extreme dyspnœa and pulmonary hæmorrhage. There was palpitation of the heart, and constriction of the chest. The following day she started on her return. As she reached a lower level she improved. Physical examination revealed extreme dilatation of both ventricles, complete cardiac diastolism, indistinct apex beat, crepitation over the base of both lungs, with feeble, or absent respiratory murmur. The patient died four weeks after her return. The autopsy showed both ventricles much dilated, old thickening and insufficiency of the mitral valve, some interstitial myocarditis and degeneration of the muscular fibre of the heart walls. The right lung was the seat of pneumonia and old infarctions. All the other viscera were in a state of extreme venous congestion.

Case IV. B., age 46, with aortic insufficiency and moderate excentric hypertrophy visited the Catskill Mountains. After a walk was seized with great difficulty of breathing, cyanosis and unconsciousness. The next day he was somewhat relieved. He returned to his home three days later. Œdema of the feet supervened, albumen and casts were found in the urine, and the patient died three weeks later. At the autopsy both ventricles were dilated. The walls of the left side were hypertrophied. The aortic valves were thickened and contracted, the heart walls were the seat of chronic interstitial myocarditis. The kidneys were cirrhotic and the lungs congested and œdematous.

Case V. H., age 26, syphilitic history and consolidation of the upper third of the right lung of one year's standing, was found to have a feeble heart, irregular in force. The muscular quality was absent. Contrary to advice, he went to an elevated place. Before he reached his destination breathing became difficult and he died seven days later.

The last case reported was that of Mrs. T., age 50. She had always been well with the exception of an attack of rheumatism ten years previously. Eighteen months before she had had an attack of cardiac palpitation which was relieved by the use of digitalis. She went to St. Regis Lake and soon complained of epigastric oppression, palpitation, dyspnœa and great prostration. Both ventricles were found dilated with a soft systolic murmur at the base. There was no marked cyanosis or œdema, the urine was scanty but contained neither sugar nor albumen. Under digitalis and stimulants she improved but in a few days the symptoms returned, vomiting came on, the pulse became more rapid and feeble. Attacks of syncope occurred, and she died three weeks after the on-set of the unfavorable symptoms. No autopsy could be obtained.

Dr. Loomis then went on to say that in all the cases coming under his observation the ventricular dilatation was unquestionably the cause of the sudden development of distressing symptoms, and that the commencement of the fatal issue seemed to be directly due to the effects on the cardiac circulation of a change from a lower to a higher altitude.

The probable explanation of these cases was then considered, the speaker first referring to the nervous supply of the heart. The quality of the atmosphere which is probably the only operative one, under these circumstance, is the diminished density.

The two important factors which lead to permanent cardiac insufficiency, are, first, the condition of pulmonary distension consequent upon rarefaction of the atmosphere, and second, the resultant condition of the circulating blood. In the first, the terminations of the vagus are excited by the distension of the lungs; by the excitation of these afferent fibres, the cardiac walls and inhibitory ganglia of the medulla are paralyzed or weakened. The inhibitory control being lost, the diastolic intervals shorten and the rhythm is increased but the amount of work accomplished is not proportionate to the visible cardiac energy. The change in the blood which acts as an important and ultimately the principal factor in producing the cardiac insufficiency is the deficiency in oxygen. The vaso-motor centres influenced by the want of oxygen in the blood supply, excite a general contraction of the arterioles of the body, filling the veins and afford-

ing a large heart supply while the arterial pressure rapidly rises as the peripheral resistance is increased. Ordinarily the heart would relieve itself by excitation of the cardio and vaso inhibitory centres, but these centres are held in abeyance by the condition of the blood circulating in the medulla. This increase in the intra-cardial pressure cannot continue, and sooner or later the heart passes into a state of diastolic relaxation which is the primary step of a condition of ventricular dilatation. It is not improbable that the blood heavily laden with carbon-dioxide also acts as a disturbing factor of the normal action of the heart through this same afferent mechanism.

If the explanation of the effects of high altitude upon the cardiac circulation be accepted, the risk which one with even slight cardiac insufficiency runs by passing from a lower to a higher altitude, is certainly very great, and if the insufficiency is extensive, such changes become immediately dangerous. It must be remembered that cardiac insufficiency may exist in those who give no evidence of it.

Clinically, the speaker relied upon what is termed the muscular element of the first sound of the heart, in determining the condition of the muscle-walls. He gave the reasons for supposing that one portion of the first sound was dependent upon the muscular contraction of the heart. The absence of this element of the first sound indicates a failure in the integrity of the heart power, which would lead him to advise such a one against passing rapidly from a lower to a higher altitude. Clinical experience had also convinced him that it was unsafe for one to make such change whose cardiac rhythm was greatly disturbed by nervous excitement, or by rapidly ascending a long flight of stairs.

Dr. Frank Donaldson, of Baltimore, read a paper entitled,

A PRELIMINARY ACCOUNT IN REGARD TO CIRCULATORY AND RESPIRATORY CHANGES OBSERVED IN ANIMALS PLACED IN THE PNEUMATIC CABINET.

The experiments had been performed by Prof. H. N. Martin, of the Johns Hopkins University, and the writer. The animals employed were rabbits which had been chloralized. It was found:

(1) When the animal is breathing air from outside of the cabinet, rarefaction of air within the cabinet causes a marked fall of general arterial pressure, but has no influence on the pulse rate. The fall of pressure lasts only a short time (ten to twenty seconds), and is often followed by a temporary rise above the normal.

(2) This fall of systemic arterial pressure depends on two factors: greater flow of blood to the skin when the air around the animal is rarefied, and greater accumulation of blood in the lungs when they are distended.

(3) Of these two factors, accumulation of blood in the lungs is the more effective, for if the animal breathes air from the cabinet, and not from the outside, rarefaction of the air within the cabinet (in this case, accompanied by no special expansion of the thorax) has but a trivial effect in lowering arterial pressure.

(4) When the animal is breathing external air, rarefaction of the air within the cabinet usually has no effect upon the respiratory rate, nor upon the extent of individual respiratory acts, unless the fall of blood-pressure be considerable. If it be considerable, symptoms of anæmia of the medulla oblongta show themselves. In some cases, there is more forcible dyspnœic breathing, and in some, dyspnœic convulsions similar to those which occur when an animal is bled to death, and due to the same cause, namely, deficient blood flowing through the respiratory centre.

(5) The rapid recovery of general arterial pressure while the animal is still in a rarefied atmosphere, but still breathing external air, is probably due to excitation of the vaso-motor centre, which, as is well known, is excited whenever the blood supply is defective.

(6) The brain enclosed in a rigid box, which is practically unaffected by variations in the atmospheric pressure, has its circulation more disturbed in the pneumatic cabinet than any other organ, with the exception of the lungs.

(7) Compression of the air within the cabinet while the lungs are in communication with the external air, causes a considerable transient rise of blood-pressure. This is probably mainly due to the forcing of the blood from the cutaneous vessels, but there has not yet been sufficient time to thoroughly investigate this point.

(8) Compression of air within the cabinet while the lungs are in communication with the external air, slows the pulse as the arterial pressure rises. This is probably due to excitation of the cardio-inhibitory centre by increased intra-cranial blood-pressure. Further experiments are, however, necessary before this can be positively stated.

(9) In certain cases, when the air within the cabinet is rarefied, and the animal is breathing external air, the respiratory movements cease altogether for several seconds. As to the cause of this physiological apnœa, we are not yet ready to form an opinion. It may be due to extra accumulation of air in the alveoli of the lung, or to distension of the lungs, exciting those fibres of the pneumogastric which tend to check inspiration.

DISCUSSION.

The President. Not only in the class of cases described by Dr. Loomis, but also in cases of cardiac disease originating in high altitudes, have I observed the grave consequences which followed. A small amount of organic lesion, under such circumstances, produce very serious symptoms, even preventing the patient from assuming the erect posture.

Dr. E. D. Hudson, of New York. It seems to me, that the effect of high altitudes upon cardiac disease is not unlike its effect upon consumption. A consumptive patient who rapidly goes into these heights, is liable to suffer with hæmorrhage, but by a gradual transition, no unpleasant effects are produced. I think that heart disease is not prevalent in high altitudes, and that the tonicity of the heart is really increased, so that such persons are better able to withstand fatigue than those of a lower level. The recognition of the importance of the point to which Dr. Loomis has called attention, will, no doubt, result in the saving of many lives. Still, when necessary, we should not be deterred in sending patients to high altitudes, taking care that sufficient time is spent in the transition, so that the circulation may gradually adapt itself to the change in altitude.

Dr. Loomis. My opinion is, that a normal muscle with normal innervation, will resist any amount of pressure. There is no danger to a good heart, whose nervous condition is normal. If such individuals suffer, it is only temporarily. It seemed to me, that

the cases were best explained on the ground which I have taken. If physiology shows that there is an anæmic condition of the nerve-centres under these conditions, the explanation will be perfectly clear. I do not maintain that it is dangerous for a man a little out of health to go into high altitudes, provided the heart walls are normal. After fifty years of age, the condition of the heart walls is uncertain. The more I study heart disease, the more I am convinced that it is not so much the valvular lesion, as it is the condition of the cardiac muscle. This high altitude is only one of the causes of over-distension of the cardiac cavities. I do not believe that it is safe for any man with arterial degeneration or dilatation of the ventricles, to take the chances of going into a high altitude, or taxing his heart beyond a certain limit.

EVENING SESSION.

A CLINICAL REPORT OF CASES TREATED BY PNEUMATIC DIFFERENTIATION.

By DR. H. F. WILLIAMS, of New York, with the assistance of Mr. Ketchum the inventor of the apparatus, a demonstration of the working of the pneumatic cabinet was given.

The speaker then reported forty-five cases in addition to those previously reported in which he had used the cabinet as a method of treatment. Sixteen cases were reported in detail.

This was followed by a paper entitled:

TEN MONTHS' EXPERIENCE WITH PNEUMATIC DIFFERENTIATION,

by DR. VINCENT Y. BOWDITCH, M.D., of Boston.

The speaker gave the clinical results of the treatment in twenty-seven cases since June 30th, 1885. Pulmonary phthisis in its tubercular and non-tubercular forms; bronchitis in its acute and chronic forms, with and without emphysema or asthma, and retraction of the lung from long standing pleuritic effusions, were the diseases which he had treated in the pneumatic cabinet. His experience was such that although he had been unable to accomplish thus far such brilliant results as some others had claimed, yet he felt convinced of the very marked beneficial effect of the cabinet in many cases where other means had failed to give relief, and of its curative power in one case of incipient tubercular trouble, and he looked forward with hope to what may be done in the future with this new method of treatment. The speaker said his chief desire was that the profession should investigate the matter thoroughly and with fairness and publish their results, for by this means only can a just estimate of the merits of the treatment be established. He felt that it should be entrusted only to a physician's care or to that of a reliable assistant, and that if placed in hospitals the most accurate methods of recording cases should be insisted upon before allowing the cabinets to be used. Carelessness of investigation in the present stage of its existence might do infinite harm to a method which may prove when properly used of infinite service.

The following table was given, showing the percentage of cases in which benefit had been accomplished:

19 + % of all the cases treated received no benefit.
23 + % of all the cases treated received very slight, moderate or temporary benefit.
46 + % of all the cases treated received marked benefit (for varying periods.)
7 + % of all the cases treated received remarkable benefit.
3 + %.
One case of incipient tuberculosis was cured.

THE PHYSICS AND PHYSIOLOGICAL ACTION OF PNEUMATIC DIFFERENTIATION,

by DR. I. H. PLATT, of Brooklyn, N.Y.

Pneumatic differentiation is the process by which the air surrounding the body and that entering the lungs is rendered of different densities. There are three forms which for convenience may be designated, positive, negative, and alternative. I propose to consider chiefly positive differentiation, which is the form in which the air surrounding the body is of less pressure than that entering the lungs, the apparatus introduced to the profession by Dr. Williams and known as the pneumatic cabinet is the most convenient for applying this treatment. As the difference in pressure used is very slight, seldom exceeding that indicated by a fall of one inch of the mercurial column, the absolute change in air pressure is an insignificant factor, the essential element being the differentiation.

The effect of reduced air pressure upon the periphery of the body is to increase the expansion of the thorax in inspiration and to diminish its contraction in expiration, consequently to increase the amount of residual air. By the increased pressure in the lungs it will tend to exsanguinate them and to raise the arterial blood pressure in the general circulation.

Two of the claims put forward by Dr. Williams and Mr. Ketchum, I believe to be unfounded. The first is that the effect of removing a slight degree of pressure from the periphery of the body is radically different from that of increasing the pressure of the air entering the lungs, the former acting as a *vis a fronte*, the latter as a *vis a tergo*. One of the most elementary principles of physics teaches that suction is not a force operating from in front, but is merely the removing the pressure from one side of a body and allowing the undiminished pressure to act upon the other side. It makes no difference whether pressure is taken from the outside of the thorax or added to the inside; in either case it is the unbalanced pressure which causes the increased expansion. The other proposition which I combat is that the spray or vapor used in conjunction with the differential process can be carried further into the air passages or more thoroughly condensed upon them than a spray or vapor could be under normal conditions. It cannot be carried so far for the reason that the residual air is increased and consequently the inspired air which carries the vapor or spray cannot penetrate so far. It is claimed that the vapor of medicinal substances is condensed in the lungs during the differential process by the compression consequent upon the commencement of the expiratory act. This is impossible, first, because compression only acts to condense a saturated vapor and the air passages cannot be saturated with the vapor of a medicinal substance, and secondly, because no greater compression is produced at the commencement of the expiration under the influence of differential pressure than under other circumstances. Such compression as does occur is due to the resistance offered by friction of the bronchial tubes and by the narrow opening of the glottis, and it is impossible that these should be affected by the differential pressure.

I believe that such benefit as results from the use of the cabinet is due mainly to the reduction of congestion in the lungs by the air pressure within them and by the increased expansion and movement of the lungs favoring their greater action and modifying their nutrition.

(To be continued.)

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THE ARRANGEMENT OF MUSEUMS OF ANATOMY.

THAT the anatomical museums of our medical colleges are far from what they should be is a rule to which we fear there are but few exceptions. Perhaps one of the best criteria of the merits of a professor of anatomy is the collection that is, or should be, in his charge. As a type of a collection which was well nigh perfect, as far as it went, we would mention that of the late Professor Jeffries Wyman, which in his lifetime was at Boylston Hall at Cambridge. As an instance of a great one which may well serve for a model, we have no hesitation in naming that of the Royal College of Surgeons known from its founder as the Hunterian Museum. We believe that Dr. Shufeldt of the United States Army is much of our opinion. He has written a paper on the "Outlines of a Museum of Anatomy," which has been published at the recommendation of the Bureau of Education. The work is evidently the result of much study, and deserves careful perusal, which it is the more likely to receive that it is very readable. Dr. Shufeldt has the courage of his convictions and writes with vigor if not always with judgment. We agree with him so fully on many points that when we must criticize we do so unwillingly.

We are quite in accord with his condemnation of the abominable jumbles of specimens which by courtesy, or rather by flattery, are called museums. Every specimen should be so mounted that it can be seen and should teach something definite. Casts, models, photographs, microscopic slides all have their usefulness. The suggestion of series of specimens put away in drawers to be reserved for special students is a very good one.

The plan of arrangement is, of course, of primary importance. Dr. Shufeldt well says: "The chief aim of the collection, as a whole, is to present to the mind of the student or visitor as clear a conception as possible, so far as our knowledge goes, of the subject of morphology, or the structure of animal forms, in all its bearings, and to the full extent to which our ingenuity will carry us, the fundamental principles of physiology." He then continues: "To do this in a proper manner, every specimen or series of specimens must be arranged throughout, wherever it can be conveniently accomplished, in accordance with our present understanding of the laws of evolution and consecutive development." He declares that he would no more think of attempting to demonstrate the truth of evolution than he would Newton's law of gravitation. He will not even define its laws, which certainly is an oversight, when he quotes among the defenders of evolution scientists who differ so widely as Haeckel and Mivart. That they both believe in transformism is true, but evolution as professed by either is widely different from the evolution of the other. It seems to us a serious scientific error to maintain that evolution is a demonstrated fact. A working hypothesis is one thing; an established truth another. It must be admitted that Dr. Shufeldt shows signs of a lively and unbridled imagination, as the following passage on the future of medicine attests. "So far as the treatment of human disease is concerned, I must believe, that if at any time in the infinite future — so infinite that present man may have assumed other shapes — disease is to be eliminated, it will *not* be through the agency of drugs, but through acumulative knowledge of the intimate structure of organic forms, of cell function in physiology, and of the relation of life to its environment, and through the results of such a perfected knowledge finally in constant practice."

The second law for the arrangement is "that in order to obtain a correct knowledge of the anatomy of any form we must have a general conception of the structure of all other forms in nature, and, as near as possible, an exact knowledge of those more nearly related to any special one we intend to study." While endorsing this heartily we find ourselves compelled to dissent from the very first application of it. "Medicine and surgery progress and become perfected *pari passu* as our knowledge of pathology increases; our knowledge of pathology rests entirely upon our knowledge of physiology, and, as a rule, advances with it; we cannot know physiology unless we know structure, and in the case of man our knowledge of his structure only advances as our knowledge of the anatomy of other animals and the significance of general morphology becomes more complete. Consequently the progress of medicine and surgery depends through all time upon the extent of our knowledge of general morphology, or organized forms upon the earth." On the other hand, it must be said that experience by no means confirms these claims. Medicine is an art as well as a science. At the beginning of this century we knew nothing of the physiology of the nervous system, and still know very little of it. Yet all physicians of the past were not fools. *Vixerunt fortes ante Agamemnona multi*, and excellent practitioners who never heard of amœboid motion.

This is somewhat of a digression which we have allowed ourselves in order to give evidence of the empire that theories have gained over our author's mind.

Let us return from it to the main question, namely: what effect will his theories have on a museum arranged in accordance with them. The answer to this depends not on the arrangement alone, but chiefly if not wholly, on the descriptive labels and charts. Thus in the list of apes taken from Haeckel we find the Pithecanthropus (alalus) the ape-like or speechless man. When this interesting specimen is found, we would have it put in its proper place, but we protest against being called upon to accept him as a certainty in the meantime. Such a course inevitably involves a warping of the facts to suit the theories. A museum should "hold the mirror up to nature." We see in nature series of organisms in ascending and diverging lines, which moreover show curious cross relations that are not to be expressed by the ordinary family-tree diagram. It is hard, however, in a museum to improve on it, and we feel sure that a collection arranged according to Dr. Shufeldt's ideas would be a most admirable one were he only willing to stop at what we know. Most instructive are series of homologous parts and series of organs having the same function, be they homologous or not.

As Dr. Shufeldt fully realizes the imperfection of our knowledge, he should agree with us that the best plan is the one that will most easily admit of modification. This will be the one that keeps closest to nature. There we see successive grades and complicated affinities; why not represent them as well as possible and leave theory to take care of itself?

Professor Burt Wilder discussed what is practically the same question in an address before the Section of Biology at the meeting of the American Association for the advancement of Science held at Ann Arbor last summer. Though full of enthusiasm for Darwin, he thinks that the candid teacher should place among series one that should show what he guardedly calls the so-called difficulties of Darwinism. Professor Wilder speaks as one who from long experience knows well the needs of the student. We have devoted so much space to Dr. Shufeldt that we regret we cannot do justice to Professor Wilder, but we suspect that, except in the matter of labels and catalogues, they would agree wonderfully well in the arrangement of a museum, and we will add, that if the rule we have already indicated be observed, there is no room for serious disagreement among good anatomists. The only one of Professor Wilder's rules that we can refer to is that a museum should exhibit not only facts but ideas. To this we heartily subscribe, and in so doing by no means contradict what we have written. It is illustrating an idea to place, so that they may be compared, the separate bones of each part of the fore and hind limb of the same animal; or to put in a series, as Dr. Shufeldt proposes, bones and models of the pectoral limb of the bat, archœopterix, bird and pterodactyl. But let it be remembered, an idea is not a theory. Indeed, in a sense an idea is a fact. No one, for instance, dreams of denying the homology between these structures. A museum without ideas would be dry indeed.

URETHAN — ANOTHER NEW HYPNOTIC.

Urethan is the carbonate of ethyl, or the ethylic ether of carbonic acid ($NH^2\ CO^2\ C^2\ H^2$). It presents itself in the form of colorless, rhomboidal crystals, which are very soluble in water, ether, and alcohol; its taste is somewhat pungent, but not especially disagreeable.

The hypnotic properties of urethan were discovered last year, by Schmiedeberg, of Strasburg; it was studied, almost at the same time, in its action on animals, and on man, by Jolly, Von Jacksch, Riegel, and Stricker. In the dose of eight to fifteen grains, it has been found capable of speedily producing a tranquil sleep, which is not followed by the headache and hebitude which so often succeeds the use of opium preparations.

Eloy has performed numerous experiments on hares and guinea pigs by hypodermic injections of urethan. It was found that large doses are not toxic, or but slightly so, while producing a fall in the temperature, diminution of sensibility and motility, torpor, and profound sleep; the latter, after a large injection of three grammes, has sometimes lasted all day. Nine grammes administered subcutaneously to a hare, did not cause the death of the animal. Like chloral, urethan is a violent local irritant, and subcutaneous injections are followed by vesication.

Huchard, physician to the Hospital Bichât, has published in the *Bulletin Général de Thérapeutique* for February 28th, the results of his clinical experimentation with this new hypnotic. He has given urethan to fourteen patients, all suffering from insomnia in different degrees, and affected with divers maladies (Hodgkin's disease, with angina pectoris; Basedow's disease, with aortic insufficiency and pulmonary tuberculosis; parenchymatous and interstitial nephritis; chronic pulmonary tuberculosis, etc.). All these persons, except two phthisical patients with pronounced dyspnœa and incessant cough, he reports as having obtained from rather large doses of urethan (forty-five to sixty grains), calm and quiet sleep, which was free from dreams and nightmare, and was not followed by digestive or cephalic troubles. Sleep came on in from ten minutes to an hour after the administration of the medicine, and lasted from five to ten hours. It was, in one instance, observed that after taking one dose of urethan, the patient slept better than usual for several successive nights.

Huchard has given urethan in grain doses, every two hours, to young infants, kept awake by acute disease, and with the happiest results. In the patient affected with Hodgkin's disease, with outbursts of acute aortitis, causing severe dyspnœa and rebellious insomnia, he succeeded in procuring relatively quiet and easy nights by three-gramme doses of urethan; in this case, hypnone and morphine had failed. A child that was constantly harassed by the teasing cough of quick consumption, and an aged female suffering from bronchial catarrh, were given comfortable nights by doses of urethan, varying from two to four grammes.

Huchard adds that the insomnia of alcoholic, phthisical, and cardiac patients, was effectively relieved by urethan. He has never seen any ill effects from this medicament on the part of the stomach, heart, or nervous system. In insomnia caused by pain, it has no more efficacy than chloral or paraldehyde. He concludes, from thirty-two administrations or this medicament to the fourteen patients aforesaid, that urethan is destined to a permanent place in the therapeutics of the future, having feeble toxic power, being very soluble in water, of not unpleasant taste, and being unattended by bad after-effects, and that it will be especially serviceable to cardiac and phthisical patients.

In this country, urethan has been tested to some extent, and it is fair to say that it has sometimes proved disappointing. Its inefficacy, in some instances, may, of course, have been due to the quality of the article.

A DAY'S WORK AT A METROPOLITAN HOSPITAL.

FEW persons who have not had personal experience in the matter, can have much idea of the work that may be crowded into a single day in one of our large hospitals. To be always ready to receive and care for, without friction, any number that may be in need of medical or surgical aid, requires constant forethought. A list of the admissions for a single day at the Boston City Hospital, illustrates very well the wide range of cases its physicians and surgeons are called upon to treat, and the extent of Boston's charities.

On Tuesday, March 23d, the following cases were admitted to that institution: Facial erysipelas, two cases; pneumonia, three cases; measles, rheumatism, diphtheria, pleurisy with effusion, pelvic cellulitis, retroversion of uterus, vertigo (cause undetermined), one each; fracture of shaft of femur, two cases; abscess, with disease of shoulder-joint, two cases; fracture of neck of femur, fracture of both bones of the leg, stricture of urethra, axillary and sub-pectoral abscess, subcutaneous abscess, ischio-rectal abscess, sprain of ankle with fracture of rib, compound fracture of toe, compound fracture of skull, with trephining, burn of penis from sulphuric acid; burns of thighs and buttocks, incised wound opening joint of toe, ulcers of leg, drowning, malignant tumor of bladder, one case of each.

Of these, only one case of facial erysipelas died, (although five others were reported dangerously ill) and one was discharged as incurable. The number discharged on the same day was fourteen.

Of course, this list is not always equalled. The daily average of admissions from April 9th to May 10th (exclusive of Sundays), was 17.5.

VANILLA POISONING.

IN connection with about twenty cases which have occurred lately where persons have been suddenly siezed with severe attacks of vomiting and purging shortly after having partaken of vanilla cream pies and cakes made by a certain baker in Boston; any possible explanation of the cause is of interest.

In these, as in the numerous other cases reported in the *London Pharmaceutical Journal*, of April 1874, the presence of irritant metallic poisons and of ptomaines has been searched for in vain. In the Berlin cases only certain individual foods had proved to be poisonous. In a number of the *Repertoire de Pharmacie* for 1880 M. Jaillet in an article upon the cultivation and preparation of vanilla says, that in the Island of Bourbon the Jatropha curcas, or physic-nut tree, is by preference grown as a support for the vanilla vine to run upon, because of its easy, rapid growth, and abundant milky juice well adapted to the nutrition of the vine.

It had been thought by some that this fact might explain the poisonous effect of some vanilla, supposing that the acrid sap of the jatropha had been absorbed by the vanilla vine. Under what circumstances, however, this absorption takes place is not explained, nor why it is of but exceptional occurrence.

There is this curious circumstance concerning all hitherto reported cases of vanilla poisoning, that it has resulted only with articles of food which were not consumed while hot, but were either of the natural temperature or else unnaturally cooled. On the other hand, vanilla is extensively used in the preparation of chocolate and teas as well as sauces and other articles which are taken while hot; but when thus used it has never been followed by symptoms of poisoning so far as reported. Hence that manner of use, at least, would seem to be always safe, and the fact would rather support the idea that the trouble results from some product of decomposition.

MEDICAL NOTES.

— A number of cases of Asiatic cholera with several deaths have occurred very recently in various Italian cities. The disease appeared first in Brindisi, and shortly afterwards in Venice, and other towns of Northern Italy.

— Hon. Robert T. Davis, M.D., of Massachusetts, delivered, in the House of Representatives, April 29, 1886, an eloquent speech in support of the action recommended in the majority report of the Committee on Commerce, favoring the sending off of an expert commission to Mexico, and, if necessary, to Central and South America, to investigate the method of Drs. Freire and Carmona for the prevention of yellow fever by inoculation.

— The anarchists who pillaged a drug store in Chicago last week, met a swift and terrible retribution. They partook freely of Vinum colchici, under the impression that it was sherry, and eight or more were killed. It is supposed that many more suffered from the poisoning than were reported through the press.

—"Mere corroborative detail, intended to give artistic verisimilitude to a bald and unconvincing narrative," is what, to use a Gilbertian phrase, appears to

be the purpose of a highly spiced picture in the *Police Gazette*, to which our attention has been called, illustrating (?) the female invasion of the operating room at the Boston City Hospital. The bald and possibly unconvincing narrative has already been laid before our readers. The "corroborative detail" shows the figure of a young man naked to the waist, and modestly draped below in a sheet, lying upon a table which reaches about to the height of the surgeon's knees. A handsaw rests upon the table in suggestive juxtaposition to the patient's neck and what seems to be a set of ordinary carving utensils hang in a rack upon the wall. The surgeon, with forbidding gesture, wards off the ladies from their prey.

— A recent writer in the *Lancet*, speaking of insidious cases of pneumonia, says that the "number of instances in London alone, where people are found in the streets dead or dying of pneumonia in an advanced stage, yet which has never been suspected, is not small. Hospital practice, though it gets a share of these cases, does not adequately represent their frequency. For that, we must go to Poor-Law infirmaries and coroners' inquests. And not only is this true of what is absurdly called 'latent pneumonia,' it is true of the acute disease as well, as the following example shows. A workingman of middle age, well proportioned and developed as to his frame and muscles, who had been feeling out of sorts for some days, was yet able to take active part in a meeting for political discussion, ending with whiskey and water. On his way home, he met with a fatal accident, falling headlong down some stone steps and fracturing his skull. *Post-mortem*, part of his right lung was found to be solid, and on section and microscopic examination, it proved to be a specimen of typical malevolent pneumonia, probably in course of resolution."

BOSTON.

— At a meeting of the Bostonian Society held last week, there was presented a prescription of Dr. Joseph Warren, which was issued by him in the year 1775, the same year of his martyrdom at Bunker Hill, to James Pitts, a member of the Council of Governor Hutchinson, the last of the Provincial governors. The prescription recommends him to "take a volatile tincture of granicum in the most convenient vehicle." Mr. Pitts was a zealous laborer in the cause of independence with his sons, one of whom was a member of the famous "tea party." The tincture of granicum apparently did not effect a radical cure of Mr. Pitts's malady, for he died about six months after his physician.

— A short time since some eight horses were killed at the stables of the Cambridge Horse Railroad by order of the cattle commissioners, as having glanders. Considerable complaint having been made by the friends of the road that this action was an unnecessary interference with their property, and that the horses had not the disease, some of the suspected organs were sent to Professor Lyman of the Harvard veterinary school, who has written a letter to Dr. Very, in which he states that, from the examination of certain tissues said to have been taken from horses belonging to the Cambridge Railroad, which were recently killed, he was "unable to say that they did or did not have the disease known as glanders. The specimens sent to him were in a badly decayed state, so as to be of no value in a pathological sense."

— At the annual meeting of the Norfolk District Medical Society, held May 11, the following officers were elected: President, Dr. Wm. P. Bolles; Vice-President, Dr. G. D. Townshend; Secretary, Librarian, and Reporter, Dr. S. Allen Potter; Treasurer, Dr. Edward G. Morse; Commissioner of Trials, Dr. Joseph Stedman; Nominating Councillor, Dr. Edward T. Williams; Censors, Drs. Harold C. Ernst, Eugene F. Dunbar, H. W. White, Henry W. Broughton, Sarah M. Crawford; Councillors, Drs. George E. Mecuen; Orville F. Rogers, Joseph G. S. Hitchcock, Henry H. T. Mansfield, John H. Richardson, Edward T. Williams, Isaac H. Hazelton, George W. Clement, John W. Chase, Edwin L. Farr, George K. Sabine, George D. Townshend, Charles A. Bemis, Charles F. Withington, George O. Allen.

NEW YORK.

— The New York State Dental Society, in session at Albany, on May 13, elected Dr. Norman W. Kingsley, of New York, President; Dr. B. Rathburn, of Dunkirk, Vice-President; and Dr. J. E. Line, of Rochester, Secretary.

— Typhus fever has broken out among the inmates of the Deborah Nursery, a Jewish charitable institution in East Broadway, and quite a number of children affected with it have been transferred to the hospital for contagious diseases on North Brother Island. The cases, as a rule, are not serious, and all are said to be doing well.

— Mr. Bartley Campbell, the dramatic author, who is presumably suffering from progressive paresis, has been committed to Bellevue Hospital for an examination of his mental condition. In the court-room he incidentally remarked that he had had a visit from Shakespeare, and that he had seen the spirit of the late John McCullough.

— A fatal case of hydrophobia has just occurred in Brooklyn. The patient, who was a prosperous builder, was a native of Germany, and was forty-seven years of age. He was bitten on March 6, by a Newfoundland dog belonging to a neighbor, but which was the constant playmate of his children. The dog was noticed to snap at persons passing along the street, and when he attempted to lead it home by the collar, it turned and bit him on the hand. The wound was promptly cauterized, and the dog was killed two days later.

— The Annual Commencement of the College of Physicians and Surgeons took place in Steinway Hall, on the evening of May 13; when the degree of M.D., was conferred by the President, Dr. John C. Dalton, on ninety-seven graduates. The usual prizes were announced, and the Alumni Association of $500, for

an essay showing original research, was awarded to Dr. William G. Thompson, for his essay "The Application of Instantaneous Photography to the Study of Physiology and Therapeutics." The Joseph Mather Smith prize, of $100, open to all Alumni, was also awarded to the same physician. The address to the graduates, as previously announced, was delivered by Gen. Horace Porter; and in commencing it he stated that he had in his youth determined to be a doctor, but had been turned aside from his resolve and became a soldier. He did not know, he went on to say, in which capacity he would have been most destructive to the human race.

Miscellany.

TABLE OF TYPHOID MORTALITY IN BALTIMORE.

THE following comparative table shows the number of deaths annually during a period of eleven years, 1875–1885 inclusive, from typhoid fever, native and foreign, males and females, in the City of Baltimore; this table is compiled from 88,577 certificates of death from all causes, as received by the Health Department during said period.

YEAR.	U. S.		U. S.		FOREIGN.		TOTALS.		Grand Totals.
	White Males.	White Females.	Colored Males.	Colored Females.	White Males.	White Females.	Males.	Females.	
1875	65	45	18	17	18	16	101	78	179
1876	53	56	10	12	26	21	89	89	178
1877	64	65	19	22	23	17	106	104	210
1878	59	58	13	21	10	15	82	94	176
1879	52	51	16	15	16	16	84	82	166
1880	48	70	20	19	22	17	90	106	196
1881	58	54	17	29	23	16	98	99	197
1882	53	54	16	15	15	17	84	86	170
1883	37	34	9	10	25	11	71	55	126
1884	55	31	9	18	25	13	89	62	151
1885	70	35	8	11	20	11	98	57	155
Totals,	614.	553	155	189	223	170	991	612	1,904
Yearly Average.	55 9-11	50 3-11	14 1-11	17 2-11	20 3-11	15 5-11	90 2 11	82 10-11	173 1-11

DIPHTHERIA TREATED BY THE GALVANO-CAUTERY.

IN a recent editorial discussion of this question, the *Therapeutic Gazette* formulates the following conclusions: —

1. The galvano cauterizations of the diphtheritic membrane produces no pain, or only a minimal one.

2. The thoroughly cauterized part is rendered absolutely sterile, and forbids the development of microbic life.

3. Fever appears soon after the cauterization.

4. No inflammatory secondary effects set in.

5. Every physician is able to execute the cauterization, even without an assistant.

6. No constitutional medicinal treatment is needed in addition to the cauterization.

7. Though the statistics of diphtheria cases thus treated are of course yet very limited, the thousands of ulcers of the cornea treated and cured in the same manner allow of very favorable prospects regarding the treatment of diphtheria with the galvanic cautery.

Correspondence.

THE MARINE PARK, SOUTH BOSTON, AS A BREATHING-PLACE.

597 BROADWAY, South Boston, May 4th, 1886.

MR. EDITOR,— As the hot season will soon have us in its grasp, I wish to call the attention of the members of the profession in Boston, who may have patients among the poor, to that part of the Park System known as the Marine Park at South Boston. The especial feature of this Park is the pier which runs out into the harbor a thousand feet and is thirty feet wide and has a bench on either side through its entire length. The outer three hundred feet will be shaded by a light wooden canopy. At the shore end is a building surrounded by a veranda and containing a lunch room and two sets of retiring rooms.

On this pier it will, at all states of the tide, be possible to give sick children the sea air, and at the same time within easy access of home at the expense of horse-car fare. Respectfully yours, W. B. BANCROFT, M.D.

THE EXPERIENCES OF A SLEEPLESS CLERGYMAN.

NEW YORK, May 13, 1886.

MR. EDITOR,— When a clergyman strays from the field of theological literature, and enters that of medicine, he makes a departure which is not always a happy or successful one, especially when he draws upon that fund of knowledge of symptoms (?) which as a rule are minutely described in the almanac or popular *vade mecum*. This individual generally sneers at, or firmly disbelieves in the efficacy of all medicine, and consistently proclaims the merits of some electrical amulet, vulcanized cereal, or quack agent which is puffed in the columns of the religious periodical to which he contributes. In a recent number of the JOURNAL, I find editorial comments upon an article written by the Rev. Dr. Ormiston of this city, who describes "the disease known as Insomnia" (*sic*), his attempt at cure; and the futile efforts of several physicians here, of whom I was one, to aid him, and of Dr. Milner Fothergill and Sir Andrew Clark, of London.

Dr. Ormiston, like the well-known Mr. Silas Wegg, drops into verse, and proclaims his deliverance through horseback exercise, and the consequent stimulation of his clerical liver, which had resisted the blue mass and colocynth of two continents. It would have been more just and exact had the reverend sufferer stated in his narrative that nearly all his doctors had advised this or some other form of exercise, which he finally adopted, but this would have spoiled the beauty of his romance.

The daily prints and religious journals are too full of the dicta of hypochondriacal clergymen; and had not a journal of the standing of your own noticed the pseudo-scientific utterances of the writer of the articles in question, I should have remained silent.

ALLAN MC LANE HAMILTON, M.D.

The letter of Dr. Hamilton must have been written very hastily, for it seems disingenuous. Dr. Ormiston's narrative was remarkable in that that gentleman did not proclaim the merits of some electrical amulet or other quack agent. The religious journal in which it was published offers a most notable example for other journals, in its advertising columns, in which no medical advertisements of any sort have a place, judging from the three numbers which contain the story in question. Dr. Ormiston did not mention our correspondent's name in connection with his

case, but leaves him undistinguished among the "best physicians" whom he consulted, where we think it would have been quite as legitimate and suitable for him to remain.

Dr. Ormiston expressly says "my physician urged exercise and exposure for hours in the open air," but nowhere does he mention either his clerical, or any other liver.

In spite of the facts that the personal element had not been eliminated from the narrative and that the poetical quotations were too numerous to seem in good taste in a medical essay, the reverend doctor's account of himself seemed worthy of note because it was an interesting autobiography of a man who had disobeyed all the laws of health and had suffered the natural result, had attempted to atone for his misdeeds and been partially restored; because, in spite of the fact that medicine had not been able to counteract the abuses of a life-time the patient did not publicly advocate quackery; and because some of the experiences, as the supposed "normal" amount of sleep and the continued doses of chloral, were worthy of notice.

The JOURNAL did not attempt to draw any great lesson from the story, any more than to criticise its English, nor to point out to its readers exactly how much credit they might give to the narrative, nor where they must withhold credence altogether. It is their everyday occupation to sift patient's accounts of themselves; they know very well that no patient can represent exactly the doctor's relations to the case or exercise a perfectly unbiased judgment on the details of his personal experience, any more than a physician can be perfectly unprejudiced in matters that intimately concern himself, but they do not on that account necessarily reject the whole story as a romance. [ED.]

REPORTED MORTALITY FOR THE WEEK ENDING MAY 8, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Diph. and Croup.	Scarlet Fever.
New York	1,439,039	659	218	17.02	16.20	1.29	5.29	.76
Philadelphia	971,363	447	137	8.58	16.72	.44	2.64	1.54
Brooklyn	690,000	—	—	—	—	—	—	—
Chicago	630,000	—	—	—	—	—	—	—
Boston	390,406	183	45	7.70	18.70	2.75	.55	1.65
St. Louis	417,220	154	62	14.95	17.55	1.95	.65	—
Baltimore	400,000	—	—	—	—	—	—	—
Cincinnati	325,000	—	—	—	—	—	—	—
New Orleans	238,000	103	26	6.79	11.64	2.91	.97	—
Buffalo	202,818	—	—	—	—	—	—	—
District of Columbia	205,000	82	22	6.10	20.74	—	—	—
Pittsburgh	190,000	68	29	14.70	10.29	4.41	1.47	4.41
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	118,070	32	7	12.52	21.91	6.26	—	—
New Haven	78,000	—	—	—	—	—	—	—
Nashville	60,000	—	—	—	—	—	—	—
Charleston	60,145	26	8	17.25	15.40	7.70	—	—
Worcester	68,383	17	6	17.64	16.66	5.88	10.35	—
Lowell	64,051	30	7	3.33	16.66	3.33	—	—
Cambridge	59,660	29	9	10.35	10.35	—	—	—
Fall River	56,863	16	6	—	6.25	—	—	—
Lynn	45,861	9	3	—	18.18	—	—	—
Lawrence	38,825	14	1	7.14	14.28	—	—	—
Springfield	37,577	11	4	27.27	27.27	—	—	18.18
New Bedford	33,393	14	7	21.42	21.42	—	—	14.28
Somerville	29,992	—	—	—	—		—	—
Salem	28,084	14	—	7.14	14.28	—	—	—
Holyoke	27,894	10	2	—	10.00	—	—	—
Chelsea	25,709	—	—	—	—	—	—	—
Taunton	23,674	7	3	—	—	—	—	—
Haverhill	21,796	—	—	—	—	—	—	—
Gloucester	21,713	3	2	—	—	—	—	—
Brockton	20,783	—	—	—	—	—	—	—
Newton	19,759	5	2	20.00	40.00	—	—	—
Malden	16,407	9	3	22.22	33.33	—	22.22	—
Fitchburg	15,375	7	1	—	14.28	—	—	—
Waltham	14,609	7	2	—	—	—	—	—
Newburyport	13,716	7	1	28.56	28.56	—	14 28	—
Northampton	12,896	2	1	—	—	—	—	—
91 Massachusetts Towns	—	42	11	4.76	28.94	—	2.38	2.38

Deaths reported 1,997: under five years of age 625: principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 237, diphtheria and croup 75, diarrhœal diseases 31, scarlet fever 26, whooping-cough 25, typhoid fever 25, measles 15, cerebro-spinal meningitis 11, erysipelas seven, small-pox (New York) one. From whooping-cough, New York 16, Baltimore, Providence and Charlestown two each, Philadelphia, Boston and Springfield one each. From typhoid fever, Philadelphia 14, District of Columbia three, New York, Baltimore and Pittsburgh two each, Boston and Lawrence one each. From measles, Baltimore 12, New York three. From cerebro-spinal meningitis, New York five, Worcester two, Philadelphia, Boston, Baltimore and Newton one each. From erysipelas, Philadelphia and Boston two each, New York, New Bedford and Newburyport one each.

Cases reported in Boston: scarlet fever 32, diphtheria 15, measles 14, and typhoid fever three.

In 108 cities and towns of Massachusetts, with a population of 1,259,168 (population of the State 1,941,465), the total death-rate for the week was 17.14 against 15.47 and 18.02 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,897, for the week ending April 24th the death-rate was 19.8. Deaths reported 3,456: infants under one year of age 849; acute diseases of the respiratory organs (London) 319; whooping-cough 155, measles 114, diarrhœa 33, diphtheria 30, scarlet fever 23, fever 23, small-pox (London and Birkenhead one each) two.

The death-rates ranged from 12.3 in Hull to 30.7 in Plymouth: Birkenhead 15.8; Birmingham 24.1; Blackburn 27.8; Bradford 19.7; Leeds 19.2; Leicester 13.8; Liverpool 21.8; London 19.4; Manchester 26.3; Newcastle-on-Tyne 23.9; Nottingham 22.8; Portsmouth 26.0; Sheffield 18.8; Sunderland 16.8.

In Edinburgh 17.0; Glasgow 25.1; Dublin 27.3.

For the week ending April 24th in the Swiss towns, there were 42 deaths from consumption, lung diseases 34, diarrhœal diseases nine, diphtheria and croup nine, small-pox, measles and whooping-cough each five, typhoid fever four, puerperal fever three, erysipelas one.

The death-rates were: at Zurich 9.5; Geneva 17.2; Basle 17.8; Berne 17.1.

The meteorological record for week ending May 8, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps. —

Week ending Saturday, May 8, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration: Hrs. & Min.	Amount in Inches.
Sunday,... 2	29.973	44.4	48.5	41.3	60.0	73.0	82.0	71.7	N.E.	E.	N.	15	25	12	C.	C.	C.	—	—
Monday,.. 3	30.036	52.0	62.1	38.1	64.0	64.0	66.0	64.7	N.E.	S.E.	W.	5	12	20	C.	C.	C.	—	—
Tuesday,.. 4	29.933	61.0	82.1	43.1	53.0	26.0	69.0	49.3	W.	W.	S.W.	13	14	16	O.	F.	R.	—	—
Wednes,.. 5	29.790	64.1	78.7	50.2	75.0	36.0	87.0	66.0	S.W.	W.	W.	12	22	14	O.	O.	F.	—	—
Thursday,. 6	29.899	59.2	69.7	49.7	69.0	40.0	63.0	57.3	W.	N.	W.	9	9	6	O.	C.	C.	—	—
Friday,... 7	29.960	58.4	71.1	50.2	60.0	60.0	67.0	62.3	W.	S.E.	S.W.	4	14	4	C.	F.	O.	—	—
Saturday,. 8	29.748	48.2	58.6	48.0	100.0	100.0	96.0	98.7	E.	N.E.	N.	14	14	16	R.	R.	R.	.30	1.55
Mean, the Week.	29.906	55.7	67.3	45.8				69.1											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MAY 8, 1886, TO MAY 14, 1886.

HUNTINGTON, DAVID L., major and surgeon. Ordered to proceed from this city to David's Island, New York Harbor, on public business connected with the reconstruction of the present hospital building at that depot, or the erection of a new one. On completion of this duty to rejoin his station. S. O. 109, A. G. O., May 10, 1886.

TILTON, HENRY R., major and surgeon. From Department East to Department of California.

BROOKE, JOHN, major and surgeon. From Department of California to Department East.

COMEGYS, EDWARD T., captain and assistant surgeon. From Department of Missouri to Department East.

APPEL, AARON H., captain and assistant surgeon. From Department East to Department of Missouri. S. O. 106, A. G. O., May 6, 1886.

FINLEY, JAMES A., captain and assistant surgeon. Ordered for duty at Fort Buford, D. T. S. O. 39, Department of Dakota, May 5, 1886.

BENHAM, R. B., captain and assistant surgeon. Ordered to Department of the Platte. S. O. 109, A. G. O., May 10, 1886.

CHERBOUNIER, captain and medical store-keeper. Granted leave of absence for four months, with permission to apply for four months extension. S. O. 109, A. G. O., May 10, 1886.

OBITUARY. A. M. SHEW, M.D.

Dr. A. M. Shew, Superintendent of the Connecticut Hospital for the Insane at Middletown, died suddenly of apoplexy on April 12th, at the age of forty-five. His health had not been good for several years, and much of the time he had been absent from his duties. He was born in Jefferson County, N. Y. In 1862 he was made Assistant Physician in the New York Asylum for Insane Convicts, at Auburn, after which he went to Philadelphia and graduated at the Jefferson Medical College. In the war he served as Assistant Surgeon of United States Volunteers. In the spring of 1866 he was appointed Assistant Physician of the New Jersey State Lunatic Asylum at Trenton, and remained there until the following September, when he was appointed to superintend the construction and organization of the Middletown Hospital.

DEATHS.

Died in Roxbury, May 12, 1886, Horatio Gilead Morse, M.D., M.M.S.S., aged sixty-nine years.

Died in Westminister, Mass., February 7, 1886, William Henry Haston Shepard, M.D., M.M.S.S., aged forty-four years.

In Leominister, May 1, 1886, George Washington Pierce, M.D., M.M.S.S., aged sixty-four years.

SOCIETY NOTICE.

MASSACHUSETTS MEDICAL SOCIETY. One Hundred and Fifth Anniversary.— The Annual Meeting will be held at 9 o'clock A.M., Wednesday, June 9, 1886, in Huntington Hall, at the Institute of Technology, Boylston Street (between Berkeley and Clarendon), Boston. The usual arrangements have been made for the preceding day, Tuesday, June 8.

By order of the President. FRANCIS W. GOSS,
ROXBURY, May 10, 1886. *Recording Secretary.*

TUESDAY, JUNE 8, 1886. 10 o'clock A.M.— The Fellows of the Society are invited to visit the Massachusetts General Hospital, on Blossom Street; the Boston City Hospital, on Harrison Avenue: and the Children's Hospital, on Huntington Avenue.

2 O'CLOCK, P.M.— Meeting in Huntington Hall. Papers will be read as follows: "Abuse of Medical Charity: a Remedy applied in 3000 Cases of Out-Door Patients: Results," by Frederick F. Doggett, M.D., of Boston. "Does the Law recently enacted by the Legislature prevent the Spread of Scarlet Fever?" by John L. Hildreth, M.D., of Cambridge. "The Present Status of Bacterial Pathology, and its Relation to Therapeutics," by Albert N. Blodgett, M.D., of Boston. "The Management of Cases of Rigidity of the Os Uteri in Labor," by William E. Boardman, M.D., of Boston. "A not well-recognized Source of Domestic Poisoning, with Cases," by Charles Harrington, M.D., of Boston. "Abdominal Cellulitis," by Julian A. Mead, M.D., of Watertown.

EXHIBITS.— On Tuesday and Wednesday, at the Harvard Medical School, Dr. Ernst will exhibit apparatus for Bacteriological research, with cultivations and microscopic preparations. At the Institute of Technology, during Tuesday and Wednesday, there will be an exhibition of Drugs.

WEDNESDAY, JUNE 9, 1886. 9 o'clock, A.M.— The One Hundred and Fifth Annual Meeting.— I. Secretary's Record and Report. II. Treasurer's Report. III. Medical Papers and Communications: "An Epidemic of Malaria in Eastern Massachusetts in 1885," by Zabdiel B. Adams, M.D., of Framingham. "The Causation and Treatment of Lateral Curvature," by Edward H. Bradford, M.D., of Boston. "Some of the Results of Fractures," by Joseph E. Garland, M.D., of Gloucester. "The Ætiology and Treatment of Summer Diarrhœa of Infants," by Henry C. Haven, M.D., of Boston. Communications from the Reporters of the District Societies. IV. Introduction of Delegates. (Intermission of fifteen minutes.)

12 O'CLOCK, M.—The Annual Discourse, by Richard M. Hodges, M.D., of Boston. The hall doors will remained closed during the delivery of this discourse.

1 O'CLOCK, P.M.— The Annual Dinner will be served in the Skating Rink, on Clarendon Street, near Boylston, to which place the Fellows, called in order of seniority, will walk in procession. Notice will be given ten minutes before the formation of the procession; in the interval Fellows are requested to assemble in Huntington Hall. No person will be admitted to the dinner without a ticket. The dinner ticket (not transferable) may be obtained on Tuesday and Wednesday, during the sessions of the Society, at the Institute of Technology, by those who have paid their dues for the current year. To enable the Committee of Arrangements to make suitable provisions for the dinner, it is earnestly requested that Fellows procure tickets before noon on Wednesday.

COUNCILLOR'S MEETINGS

Will be held during the ensuing year at the Medical Library, No. 19 Boylston Place, Boston, as follows: I. The Annual Meeting, at 7 o'clock P.M., Tuesday, June 8. II. A Stated Meeting, at 11 o'clock, A.M., Wednesday, October 6. III. A Stated Meeting, at 11 o'clock, A.M., Wednesday, February 2, 1887.

THE ANNUAL CONFERENCE OF CENSORS

Will be held at 2.30 P.M., Tuesday, June 8, 1886, at the Medical Library, No. 19 Boylston Place, Boston.

CENSORS' MEETINGS.

The Censors for Suffolk District, officiating also for the State Society, will meet in Boston, for the examination of candidates, on Thursday, June 3, 1886, and on the first Thursday of September and of December. But they cannot examine any candidate who is already a resident, or in practice, in any District other than Suffolk. Their meetings will be duly advertised in the *Boston Medical and Surgical Journal* In the other Medical Districts the Censors will hold their meetings for the examination of candidates residing in their respective Districts, and none other, at the same place and on the same day as the stated meetingsof the District Societies themselves.

Original Articles.

RESULTS OF THE INTRA-VENOUS INJECTION OF SALT SOLUTIONS.[1]

BY F. B. HARRINGTON, M.D.

A TABULATION OF CASES AND SOME REMARKS ON THE VALUE OF THE OPERATION.

The effort to prevent death, which threatened as a result of the loss of blood, led at an early period in the history of medicine to transfusion.

The use of the blood of animals and of blood which has not been defibrinated has been abandoned as dangerous. The blood of distinct species seem to possess toxic influences, and undefibrinated blood of the same species is dangerous, because of the occurrence of clots.

Excellent results have been obtained by the use of defibrinated blood, but it is always difficult and sometimes impossible to obtain sufficient human blood for transfusion.

This has led to the use of various substitutes for blood such as milk, egg albumen, peptones and the like. These although of value possess some elements of danger. The intra-venous injection of salt solutions was extensively practised in the cholera epidemic of 1832–33. It was again used in later epidemics. It produced marked temporary improvement, but did not effect the final result.

Within late years it has been found by experiments on animals, that those dying from loss of blood could be resuscitated by the injection of solutions of common salt. Salt solution is an indifferent fluid, and the beneficial effect is supposed to be due to the increase in volume given to the blood remaining in the system after bleeding. In progressive anæmia life may continue although the red corpuscles are reduced to less than one-tenth of the normal number; a reduction greater than would ever occur from hæmorrhage. When the red corpuscles remaining after severe bleeding are brought into circulation by a harmless medium the danger of death is diminished. Moreover the increased volume of the current gives the heart something to contract upon and its action becomes slower and stronger.

Ott,[2] as the result of recent experiments, claims that the beneficial action of blood transfusion in acute anæmia may be explained only by the introduction of a certain amount of fluid into the circulation. The theory of the "transplantation" of blood by means of transfusion he believes is untenable, being disproved by experiments.

Maydl,[3] on the other hand, in his experiments on dogs was able to save more animals by defibrinated blood than by salt solution.

He says we must recognize two forms of death from hæmorrhage. In one there is anæmia of the nerve centres, although blood enough to sustain life still remains in the body. In these cases stimulation, position, and auto-transfusion are usually sufficient to prevent death. In rare cases the injection of salt solution may be necessary.

Death in the second form is due, he believes, to such a loss of blood that there are not enough of the normal constituents of the blood left to sustain life.

In this case the transfusion of blood becomes necessary; or salt infusion may be immediately performed, to be followed in a short time by the transfusion of defibrinated blood.

Ott and Maydl thus differ in their estimation of the value of blood transfusion, yet both agree as to the value and the lack of danger in the careful use of salt solution.

The difficulty of obtaining a proper quantity of defibrinated blood at short notice, and the ease with which saline solutions can be made, certainly predispose in favor of the latter.

In 1883, Dr. Bull [4] collected and tabulated nineteen cases in which salt solution had been used as a substitute for transfusion. This table is presented with ten new cases which I have collected.

Schwarz's solution is a saline solution made slightly alkaline by sodic hydrate.

[See Table on next page.]

To sum up, we have one case (3) of iodoform poisoning, three cases (14, 15, 16,) of poisoning from illuminating gas. These four cases recovered. There were four cases of collapse. Two (21, 29) from peritonitis, one (28) from septicæmia, one (23) from shock. These cases showed temporary improvement, but all died. One case (2) of incomplete removal of uterine carcinoma after temporary improvement, died: one case (5) died on the following day from amyloid degeneration of the remaining kidney, the other having been removed: one case (6) recovered from the hæmorrhage, but death followed in six days from septicæmia: one case (7) recovered, but died in three weeks from peritonitis, one case (10) died in three hours, the result of a second hæmorrhage from a gastric ulcer: one case (17) of nephrectomy after temporary improvement died in twelve hours: one case (24) recovered from the hæmorrhage and died in five days of peritonitis. Of the above-mentioned fifteen cases, four recovered. The others died from some cause other than the hæmorrhage. There remain fourteen cases of which thirteen made complete recovery. One case (25) died immediately. If correctly reported the injection of over sixty-six ounces in fifteen minutes must be looked upon as a dangerous proceeding. It is the only case favorable for the operation, in which there was no improvement.

Experience has shown us that the system will bear the loss of very large amounts of blood.

Maydl (*loc. cit.*) found that dogs would sometimes bear the loss of two-thirds of the blood volume and recover without transfusion or intra-venous injection being performed.

To determine when intra-venous injection is demanded is a question of judgment of the patient's peril, and not a question merely of the amount of blood lost. All ordinary means should first be tried. If these fail the salt-solution may be necessary. The best form of solution is made as follows:

Sodic Chloride	6 = 3 iss
Sodic Bicarbonate	1 = gr. xv
Aqua Distillata	1000 = 0ii+

Care should be taken that the solution be perfectly free from débris. Water that has been boiled and filtered or pure water that has been filtered will answer the purpose.

The solution should be warmed and kept at a temperature between 100° and 104° F.

A reservoir with a rubber tubing and a canula of

[1] Read before Boston Society for Medical Observation, April 5, 1886.
[2] St. Petersburg Inaugural Dissertation, 1884. London Medical Record, February 15, 1886.
[3] Medizin. Jahrbüch, 1884.
[4] New York Medical Record, January 5, 1884.

No.	Operator.	Condition for which the Injection was made.	Quantity of Solution; Temperature; Apparatus; Duration of Operation.	Vessels.	Results.	Reference.
1	Bischoff.	Anæmia following separation of placenta.	Forty ounces of Schwarz's solution in one hour: funnel and tubing.	Peripheral end of radial artery.	Recovery.	Centralbl'tt für Gyn., 1881, No. 23.
2	Küstner.	Anæmia after incomplete extirpation of uterine carcinoma.	Thirty-two oz. Schwarz's sol. (temp., 100½° F.) in one hour by means of irrigation.	Peripheral end of radial artery.	Death; temporary improvement.	Centralbl'tt für Gyn., 1882, No. 10.
3	Kocher.	Collapse from iodoform poisoning.	Sixteen ounces with syringe.	Peripheral end radial artery.	Recovery.	Cen. für Chir., 1882, No. 15.
4	Kümmel.	Collapse from loss of blood during nephrectomy.	Thirty-two oz., (temp. 104°), in half an hour, with funnel and tubing.	Peripheral end of radial artery.	Death on following day from amyloid disease of other kidney.	Cen. für Chir., 1882, No. 19.
5	Kümmel.	Anæmia from secondary hæmorrhage (excision of knee joint.)	Sixteen oz. Schwarz's sol., with glass syringe.	Peripheral end radial artery.	Recovery; gangrene of hand.	Cen. für Chir., 1882, No. 19.
6	Schwarz.	Anæmia following bleeding from cancer of cervix, and after operation.	Sixteen ounces.	Median vein at elbow.	Death in six days; septicæmia; complete recovery from collapse.	Berlin Klin. Woch., 1882, No. 35.
7	Küstner.	Anæmia from puerperal hæmorrhage.	Forty ounces Schwarz's sol., (temp. 104° F.), in fifteen minutes by means of irrigator.	Median vein at elbow.	Death in three weeks from peritonitis; complete recov'y temporarily.	Deutche Med. Woch., 1883, No. 35.
8	Szumann.	Multiple injuries: resection of head of humerus. Forty-eight hours later, cerebral anæmia on sitting up for change of dressing.	Twenty-four ounces of Schwarz's sol., in fifteen to twenty minutes, with irrigator.	Median vein at elbow.	Recovery.	Berlin Klin. Woch., 1883, No. 21.
9	Heyder.	Anæmia from extraction of placenta.	12 oz. Schwarz's sol., (temp. 104° F.), in 10 min. by irrigator.	Median vein at elbow.	Recovery.	Cen. für Gyn., 1883, No. 25.
10	v. Hecker.	Anæmia and collapse after bleeding from gastric ulcer.	40 oz. Schwarz's sol., (temp. 102 F.), in fifteen minutes.	Median basilic vein.	Death in 3 h. from fresh bleeding; tem. improvement.	Wien. Medical Woch., 1883, No. 37.
11	Jennings.	Anæmia from traumatism before labor.	Sixteen oz. alcoholized saline sol., syringe.	Vein at bend of elbow.	Recovery and safe delivery.	Lancet, 1882, ii. 436.
12	Coates.	Anæmia from post-partum hæmorrhage.	Alcoholized saline fluid by means of Jenning's siphon.	Vein at bend of elbow.	Recovery.	Lancet, 1882, ii. 1110.
13	Bull	Anæmia following extirpation of angioma at elbow. Bleeding stopped by ligature of brochial. Patient cold, unconscious. No radial pulse: carotid, 140.	Twelve ounces of a warm salt solution (two per cent in distilled water) in ten minutes with Collins apparatus.	Median basilic vein.	Recovery fifteen minutes after injection: warm, conscious, radial pulse 120, of good volume.	New York Hospital, Aug. 23, 1883. Med. Rec. N. Y., Jan. 5, 1884.
14	Jersey.	Collapse from illuminating-gas poisoning of twenty hours duration. Venesection to eight oz.	Eleven ounces in ten minutes irrigating bottle.	Median basilic vein.	Recovery.	Chambers St., Hospital, Sept. 11, 1883.
15	Wilkie.	Collapse from illuminating-gas poisoning. Venesection to thirteen ounces.	Eleven ounces in fifteen minutes, invigorating bottle.	Median ceph'ic vein.	Recovery; septic lymphangitis from wound.	Chambers St. Hospital, Nov. 22, 1883.
16	Wilkie.	Collapse from illuminating-gas poisoning. Venesection to six oz.	Nine ounces in ten minutes, irrigating bottles.	Median ceph'ic vein.	Recovery complete in twenty-four hours.	Cham. St. Hos. Nov. 22, 1883.
17	Bull.	Anæmia from bleeding in nephrectomy. Bleeding arrested by sponge pressure.	About 10 ounces of Schwarz's sol., in fifteen minutes, irrigating bottles.	Median basilic vein.	Death after twelve hours; temporary improvement marked.	Dr. Weirs' service, N. York Hospital.
18	Halsted.	Collapse twelve hours after compound fracture, with severe bleeding. Patient unconscious, cold; pulse barely perceptible.	Six and a half ounces of salt sol., (3i to oi), injected in fifteen minutes.	Central end of radial artery.	Recovery; after operation warm; conscious; pulse, 135, good volume.	Dr. Weirs' service, N. York Hospital.
19	Jersey.	Anæmia from incised wounds. Very severe bleeding for three hours. No radial pulse.	Twelve ounces of Schwarz's sol. in ten or fifteen minutes with irrigating bottle.	Median cephalic vein.	Recovery.	Dr. Weirs' service, N. York Hospital.
20	Mikuliez.	Anæmia from a wound of the brachial artery. Pulse 130, and thready. Breathing labored.	Twenty oz. salt (0.6%), sol., in fifteen minutes, (temp. 104°, F.), funnel and tubing.	Cephalic vein.	Recovery.	Wien. Klin. vii. Heft., July '84.
21	Mikuliez.	Collapse in a patient who was developing acute peritonitis. Pulse threadlike.	Twenty-six ounces of salt, (0.6%) solution.	Cephalic vein.	Death; temporary improvement of pulse.	Wien. Klin. vii. Heft. July, '84.
22	Stroynowski.	Placenta prævia. Unconscious, no radial pulse.	Twenty to twenty-four oz. of Schwarz's sol., in twelve min.	Median ceph'ic vein.	Recovery.	Wien. Klin. vii. Heft. July, '84.
23	Bradford.	Collapse. Secondary hæmorrhage following amputation of middle thigh.	Salt sol., (6%) eight ounces, Aveling's needle and syringe.	Median vein.	Death; no benefit; patient moribund at the time of the infusion.	City Hosp. Rep. Surg. Records, vol. 126, p. 213.
24	Zemachi.	Uterine hæmorrhage of three days' duration. [Post-mortem showed tubal pregnancy, with ruptured Fallopian tubes.] Unconscious.	Thirty-three ounces of salt sol., (0.6%), temp. 140°, F.		Recovery; death in five days from peritonitis.	Vratch. '85, No. 33. Lond. Med. Rec., Feb. 15, '86
25	Ott.	Placenta prævia, version. Profound anæmia.	Sixty-six and two-thirds oz., in fifteen minutes, (0.6% salt solution.	Median vein.	Death in 15 min.; aut'sy showed acute cerebral anæmia, the abdominal organs choked with blood.	Vratch. No. 2, '85. Lond. Med. Rec. Feb. 15, '86
26	Ott.	After labor, very profuse hæmorrhage, from probably varicose uterine veins. The genital and femoral veins showed large varicose dilatations. Collapse and vomiting.	Eighty-three ounces of salt solution, temp. 100.3° F.	Median vein.	Recovery after passing through puerperal septic endometritis.	Vratch. No. 2, '85. Lond. Med. Rec. Feb. 15, '86
27	Harrington.	Ante-partum and post-partum hæmorrhage. Collapse. Absence of radial pulse. Cardiac pulsation 160. Unconscious.	66 oz. of salt, (0.6%) sol., injected at two sittings, one hour and and three-quarters apart. The second for a second hæmorrhage. Temp. 100°, F., funnel and tube.	Right and left Median Ceph'ic vein.	Recovery; red corpuscles sixty hours after hæmorrhage, 1,838,000 per c. m. m., nine days later, 1,180,000.	Boston Medical and Surgical Journal, Mar. 4, 1886.
28	Elliot.	Pulseless condition for twelve hours, the result of septicæmia.	41 oz. of salt, (0.6%) sol. in thirty minutes, with fountain syringe and a glass canula.	Median basilic vein.	Death in five hours; immediate improvement in color, respir'on and pulse.	Free Hospital for Women.
29	Homans.	Collapse after operation for ovariotomy and extra-uterine pregnancy of seven years' duration.	Thirty-nine ounces of salt, (0.6%) sal., temp. 100 F.	Median Cephalic.	Death in four hours; improvement at first.	Rep'ted before Boston Obst. Society, March, 1886.

small size make the best injection apparatus. No air should be allowed to enter the current. The solution should enter the circulation at a low pressure and its effect on the heart should be carefully watched. Gravity pressure is safer than a syringe. An elevation of one and one-half to three feet is sufficient. The amount used must depend upon the effect upon the circulation, but may be from one to four pints. If a vein can be found in the arm it may be used. This can usually be accomplished if a ligature is placed about the arm above the elbow and the blood in the forearm is pushed toward the elbow, by the hand or by bandaging. If the vein cannot be found, the artery may be used. The salt-solution should not be allowed to enter the circulation too rapidly, lest the heart be overpowered.

The simplicity of the operation, its great efficacy in cases of simple acute anæmia and the lack of danger in its careful use makes it the duty of every practitioner to be prepared to make trial of this means of saving life when the necessity arises.

RECENT PROGRESS IN PATHOLOGY AND PATHOLOGICAL ANATOMY.

BY WILLIAM F. WHITNEY, M.D.

ON THE PATHOLOGICAL ANATOMY OF THE NUCLEUS.[1]

WITH the improvements in the methods of differential staining the attention of observers has been directed to structural details which it was impossible before to bring out with certainty. One of these, to which the anatomists have turned their attention of late, is the exact manner in which the nucleus divides in the multiplication of cells. The various steps of the process have been carefully followed and figured, and for them the term of karyokinesis has been adopted and has already become familiar. The pathologists have also endeavored to go a step further and see if it was of any value in determining the nature of the charges in which they were particularly interested.

Pfitzner has brought together the work done and to this has added observations of his own, and points out the limitations which are imposed by the imperfections of the methods now at our command.

As a brief summary from the histological work it can be stated: that new cells are formed only from pre-existing ones by their division. The steps are first, a division of the nucleus and then of the cell body. The latter is either by fissure or by the formation of a partition. The former is accompanied by an extremely complicated change of its structural elements. (Karyokinesis.) If we could always find these "figures of nuclear division," we should have won a great point for the diagnosis of physiological and pathological processes, and we could use the numerical relation of such nuclei to those at rest in determining the intensity of cell increase. But unfortunately so much is dependent upon the technical skill of the investigator, and accidents of illumination that uniformity of observation has not been reached. Where this has been attained care must be taken not to be deceived in that the division varies greatly in different parts of the same piece of tissue and at different times. But the greatest difficulty which lies in the way comes from the rapidity with which the process is completed in the warm-blooded animals. Even the short time required for removal and fixing the specimens by chemical reagents is enough to completely change its character. This shows the hopelessness of expecting to determine much about the malignancy of a new growth from nuclear appearances. Further, it was hoped that the axis of division would show the direction of the growth; but this has to be regarded with suspicion, as observation upon living protozoa revealed the daughter cells lying more or less at an angle to each other.

But the chief value of these investigations for future physiological and pathological research lies in the fact that we have learned to recognize the separate constituents of the nucleus and can differentitate them more easily. The cellular pathology has long been regarded as the groundwork of scientific pathology, but we are really but little beyond a pathological anatomy of the organs and tissues. Our knowledge of the anatomical changes in disease is confined to that of those of the cell bodies. This is very incomplete and without sequence, and above all is entirely wanting in regard to the manner in which the morphological constituents behave. As to the nucleus, it has been left out of the question entirely. The author hopes to show that this is not less important, and often more so than the cell body.

Five different substances have been found to be present in it. (1) The ground substance, called achromatin, which is homogeneous and probably of gelatinous consistency. (2) The parachromatin, of which little is yet known; this is found during the period of rest as a fine network, and goes to form the so-called spindle fibres during division. (3) The true nucleoli, closely related to the former but yet to be distinguished from the following, in spite of its remarkable relation to coloring matters. (4) Chromatin characterized by its containing nuclein. (5) Accidental formations, as crystals, starch granules, structureless accumulations of albuminous materials, etc.

Of these the chromatin is the most important, and we find that all changes in the life of a cell are expressed in a qualitative or quantitative variation in its amount or form. And this is so constant that it can be used to determine the prevailing conditions. From the investigations of different observers it appears that its development keeps pace with that of the cell. If the nuclei of the same kind of tissue are examined in young and in old animals, those of the former are found very much poorer in this substance than those of the latter. And if we go back to the embryonic stage, these relations are still more clearly expressed. It can therefore be stated that the poverty of the nucleus in chromatin is a sign of the embryonic condition of the cell. Before impregnation the ovum is remarkable in this respect. From a pure histological standpoint that action can be regarded as an enriching of the nuclear chromatin of the egg. The ova of Neritina fluvatilis which are not impregnated, it is true, go through the changes up to segmentation, but after that the further divisions become irregular, the products degenerate and are finally destroyed.

What are the conditions that are found when the height of its development has been passed, when senile atrophy comes on? This is perhaps best studied in tissues which quickly arrive there, as, for example, the crystalline lens. Here all changes are to be found from the cells capable of division to the mature fibres

[1] Pfitzner. Virchow's Archiv. Vol. 103, p. 275.

with lifeless nuclei. Stratified epithelium is another example of this sort, where the basal cells are still capable of multiplication, while the other layers gradually atrophy from loss of nutrition.

In the vegetable kingdom the condition of the nucleus in the different annual rings of a tree up to a hundred years has been investigated. In these it was found that the chromatin varied in two ways. In one, its meshwork became duller the contour irregular, and finally the nucleus separated into fragments. In the other, it became homogeneous, but its refraction and capability of taking coloring matter could still be made out for a long time, especially when the wood is saturated with rosin.

In the lens fibres above mentioned, the nuclei at rest have a fine network of chromatin. As they are transformed into fibres this becomes plumper, and firmer particles appear. The contour of the nucleus becomes irregular, as if gnawed into; holes appear on edges and in the interior, and finally, all that can be made out is a clear minute spot.

In the formation of the epidermis of a frog, the changes can be easily followed. The nucleus becomes homogeneous, with a decided increase in volume, the chromatin is pressed closely together, obscuring the nucleolus, still, the whole takes color surprisingly well. Among the mammals, there is a diminution of the volume and flattening, the internal structure disappears, the refraction is destroyed, as well as the coloring properties, while the contour remains generally sharp and regular. These gradually increase until there is only a hole in the interior of the cell. This finally goes and it remains doubtful whether the nucleus has entirely disappeared or whether the denser part obscures its remnant. Further investigations showed that there were two ways here also. In the one the substance of the chromatin is destroyed, in that it becomes less refractive and less easily colored. In the other the form is changed, in that its fine, complicated network run together in thicker and more massive divisions, which finally break up into clumps. These two forms, however, run into each other.

Actively secreting cells present another example of degeneration. When the body is filled with secretion, the nucleus looks shrunken, its chromatin is pressed together and gives to it a glancing homogeneous appearance. The so-called goblet cells are closely related to these. In the fully formed ones the peripheral parts of which are bulged out and contain a clear glassy contents, the nucleus which lies in the base presents the same look as that of the secreting cells: Besides these, there are found very narrow, poorly differentiated cells with a staff-shaped nucleus, which show the marks of advanced destruction. These may be regarded as collapsed cells which have been pressed upon by their neighbors and are gradually undergoing reabsorption.

One of the most disputed points in histology is the method of increase of the red blood corpuscles and the loss of their nuclei. The author thinks his investigations tend to elucidate this.

In the embryoes of the salamander the blood cells in the entire vascular system, in the narrowest capillaries as well as that in the middle of the heart show evidence of karyokinesis. In the adult there is never found in the circulating blood the signs of any such process. As observation has shown the increase of the blood cells is restricted to special parts, which are thus transformed in hæmatopoietic organs, the spleen, the bone, marrow, etc.

The nucleus of the blood cells of the amphibians is characterized by a glancing, compact structure, and the scheme of division is as follows: After it has begun to divide, it passes into the "star" and "coiled" forms, then finally into the "basket" shape, and then new nuclei are formed. In this condition the nucleus has the same appearance as the majority of tissue cells. With the continued reduction of volume of the nucleus, its framework of chromatin becomes narrower, fuller, the nucleoli present in numbers become large, but at the same time less distinct from increase of the chromatin. This is the condition of rest or homogeneous nucleus. But the process goes still further. The network becomes fuller, and the nuclear outline does not remain smooth but is cut in upon so that it looks like a mulberry. It loses its refraction and coloring, and finally disappears. Although this cannot be directly proved for the blood of mammals, still the analogy is very close and it is presumable that the absence of nuclei is to be referred to a gradual destruction, and the whole is similar to the results of ageing. The same probably holds good also for the leucocytes.

In the pathological processes proper, his observations were restricted to two classes: wounds and malignant growths.

In the first, his observations agree in showing that karyokinesis does not occur in the cells immediately surrounding the edge of the wound, but at some distance from it. Here they occupy a well-defined zone and in greater abundance than in the normal portion. Between this area of regeneration and the edge of the wound, the nuclei agree more or less with those found in senile atrophy. At times the chemical and at times the morphological deconstruction of the network of chromatin is in the foreground. Corresponding to this the nucleus becomes at times shiny, with irregular outline, mulberry-shaped, at times pale and homogeneous, vesicular.

It has been supposed by many authors, that in the production of epithelium to cover a loss of substance, the division of the nuclei was accomplished in the "direct" way and it was not until afterwards that the karyokenitic figures were found. But the true zone of activity had been overlooked and disregarded.

In the new growths, the epithelial pearls of the flat celled cancers were the only parts studied. The similarity of the nuclei to those of the sebaceous glands was very marked. Towards the centre of one of these nests the nuclei diminish markedly in size, become at first uniform, and then lose their refraction and power of staining more and more.

The difference between the normal and regenerating epithelium and its relation to inflammation and new formation consists on the one side in the number of figures of division, and on the other, in the relation of the numbers of the single parts of the nuclei.

As to the figures of division in wounds there is a special zone. In new growths, it can be seen that it is not the normal growing tissue of an adult. As the figures are found deep in the epithelium, as well as in that of the basal cells. A great difference is in the chromatin present, as readily suggests itself, the cell is probably of an embryonic character, and in fact it is very poor in chromatin, more so than similar cells for the normal part of the same organ and the figures are much smaller.

ON THE BLOOD IN LEUKÆMIA, TOGETHER WITH OBSERVATIONS RELATING TO THE ORIGIN OF THE FIBRIN FERMENT.[2]

According to the ideas of Alex. Schmidt, fibrin is formed in the coagulation of blood and serous fluids by the action of three substances. One of these exists formed in the fluid; it is regarded as the groundwork proper, and has been called fibrinogen. The other two, called respectively the fibrinoplastic substance and fibrin ferment are presumably derived from the white corpuscles, that are destroyed and are formed at the time of coagulation. In this destruction of the leucocytes there is supposed to be an interaction of the blood plasma and the protoplasm, in which the former takes from the last the constituents necessary to form the fibrin element.

In some cases of failure of the blood to clot, it has been regarded as due to an insufficient breaking up of the cells above mentioned. In other words, there is blood in which all the stuff necessary for the formation of the ferment is present; but in which this never is made, because the blood plasma has been so altered as to be deprived of its destructive agency.

One author thinks this to be the case in blood in leukæmia. From the standpoint of Dr. Schmidt this would not be expected, as from the large amount of white cells the action should be very energetic.

In order to prove which view was correct, blood was drawn from a leukæmia patient, in which were 2,000,000 red and 630,000 white corpuscles to a cubic millemeter. The venous blood did not coagulate particularly slowly, but the fibrin was poorly developed, soft, and did not contract firmly. On a further addition of leucocyles the time of clotting was prolonged. On the other hand, that of filtered plasma from the horse was greatly accelerated by the addition of one-seventh of its volume of leucæmic blood.

In the blood from the cadaver of this patient only traces of the free ferment could be detected with the proper reagents. If instead of the entire blood only the white corpuscles, which were deposited on standing, were alone added to the horse's plasma, the time of its coagulation was much retarded. From these experiments the author concludes that in reality the groundwork for the development of fibrin ferment was present in the leucæmic blood, but that its plasma could not form the true ferment out of this as in the normal plasma of the horse.

In the leucæmic blood the formative materials of the ferment are kept attached by the white corpuscles. But from the investigations of the author they were found in solution in fluids that are capable of coagulation. Examination of the filtered plasma before and after this showed that the amount of ferment was greatly increased during the process. Since the formed elements were wanting here, the fibrin must be formed entirely from substances in solution. The action of a fluid obtained from a hæmorrhagic cyst in the neck also strengthened this view. It contained but few cells and did not coagulate spontaneously. Nevertheless, filtered normal plasma separated considerable quantity of the ferment from this. The filtered fluid also acted on the horse's plasma not only in shortening the time of coagulation, but also by increasing the amount of fibrin formed.

The author finally turned his attention to a consideration of the nature of the substance which formed this substratum of the ferment, and he concludes that it comes from the retrograde metamorphosis of the albuminous bodies. He tried, therefore, if the addition of any of these would accelerate the process. The results obtained in this way were variable, but on the whole were in accordance with the theory. The experiments were more successful, however, when conducted in the following way. A solution of one per cent. of glycocholate or taurocholate of soda was added to the filtered plasma, which entirely deprived it of its spontaneous coagulability. If to this one of the above mentioned products be added, fibrin is formed in a few hours. Whether these are themselves the sources of it, or whether they simply increase the activity of that already in solution (by decreasing any resistance) is left undecided by the author.

[2] J. v. S. Himmelstjerna. Fortschritte der Medicine, 1885, p. 669.

ON EXPERIMENTAL MYO- AND ENDO-CARDITIS.[3]

Under Orth's guidance experiments were made by which an endocarditis was produced. For this purpose a thin sound was introduced through the carotid, the aortic valves injured, then after its withdrawal staphylococci and streptococci were injected. The bacteria thus introduced developed on the valvular surface, penetrating from there deeply into the tissues, and also on the surface of aorta which had come in contact with the sound. Ribbert has also succeeded, but without using violence.

The staphylococcus aureus form a "spontaneous" case of ulcerative endocarditis was grown on potatoe. If the colonies were removed together with a little of the potatoe, a thick fluid was obtained, containing small particles suitable to act as emboli.

A very small quantity of this emulsion was injected into a vein of the ear of a rabbit. The animals lived from sixty hours to five days; when they died later than this, endocarditis was rarely set up.

In those which died at the end of the second day the results were most marked. The heart was greatly dilated and the external surface was marked by numerous small, somewhat elongated foci. Sometimes they formed groups, which were often confluent; this was especially the case on the anterior aspect of the left ventricle near the apex. They were also found throughout the thickness of the muscle as well as beneath the endocardium. Their long diameter corresponded with the course of the fibres. The surrounding substance was slightly more opaque than normal and at their centre was to be seen a slight depression in the midst of which a minute, deeper colored spot or line was visible. If one of the younger foci was cut through there could be made out five different zones. (1) The yellow central spot; (2) a narrow gray ring; (3) a white zone. These three were well marked, then a very fine hyperæmic line which gradually passed over into a whitish one, finally losing itself in the surrounding tissue with a jagged outline. With advancing age the yellow color gradually spreads over the entire spot. The largest rarely exceed the size of a pin's head.

The microscopic examination of the earliest stage revealed small accumulation of micrococci distributed throughout the muscular substance. These stand in close relation to the vessels as their elongated and often branching character indicates. The surroundings are unchanged at first. A little later the nuclei in their immediate neighborhood do not take color so

[3] Fortschritte der Medicin. Vol. iv, p. 1.

clearly, the muscular fibres become opaque and lose their striations; then they break up into small irregular scales or granules, while further off the fibres have a marked longitudinal striation and contain fat granules. In the white zone at the periphery there is found a deposition of lime salts. The further stages of inflammation follow quickly upon this. In the hyperæmic part leucocytes begin to accumulate, which soon absorb the included fibres until finally only a zone of white corpuscles is seen. The infiltration gradually fades out and the lime salts are again taken up in the later stage.

In the beginning, the necrotic portion is sharply set off from that which contains the nuclei. Soon, however, the latter wander in and destroy the greater part, while here and there, a fibre can be seen encapsulated. This is the condition at the end of the fifth day; what the further history of the colonies is, could not be determined, on account of the death of the animals.

More important than these myocarditic processes, were those found on the valves. In animals which died in from twenty to twenty-four hours, there were regularly found white spots on the tricuspid and mitral, while the aortic and pulmonary were free. On the right side, these spots were single, while on the left, they were numerous. The size varied from the smallest speck, to points one to two millimeters in diameter. Microscopic examination showed them to be composed of accumulations of micrococci, which, on cultivation, developed as the staphylococcus aureus. The most frequent seat was on the free edge, near the insertion of the chordæ tendineæ, and on both surfaces. The part near the base was, as a rule, unaffected.

At first, the endothelium beneath the cocci is unaffected. Then the regular succession of the nuclei is lost, the endothelium is quickly penetrated, and soon becomes indistinct. The colonies also send projections downwards, having irregular branches. Beyond this the parasites do not seem to go, as the reactive inflammation, which is thus set up, puts a limit to them, while between, lies a narrow zone of cells without nuclei. On the free surface of the colony, is formed a thrombus layer, which consists of finely-coagulated fibrin, and includes numerous nuclei of leucocytes. It is usually sharply set off from the micrococci, and contains only a few scattered ones. All these appearances are in close connection with what is known of the early stages of human endocarditis.

Those who are of the opinion that in man, the inflammation is set up by the deposition of the parasite on the valves, will be supported in this view by the above experiments. In the same way, larger embolic masses can be driven against the valves, and a part of their fungi adhere to them. But it is doubtful if this explanation is sufficient for the most frequent and typical cases, in which the warty and cock's-comb-like excresences are arranged exactly in the course of the line of closure. In these experiments, there seemed to be no preference for this place, and least of all, for a linear arrangement. As further difference, must the failure to attack these aortic and pulmonary valves be distinctly remembered.

ON ATROPHY AND HYPERTROPHY OF THE MUSCULAR FIBRES OF THE HEART.[4]

The question whether the increase in size of the heart, which so frequently occurs, is due to an enlargement of the existing fibres, or to a numerical increase, is one that has interested pathologists for many years, and each side of which has found many adherents.

Goldenburg has taken up the question again, and from careful microscopic measurements and comparisons made on the muscles from nine hypertrophied, nine atrophied, and nine normal hearts, has come to the following results.

It is certain that brown atrophy of the heart is associated with a reduction in the medium breadth of the muscular fibres, and that in compensatory hypertrophy, the reverse is found. From the form of the section of separate muscular fibres, it is probable that a separation of new muscle-cells occurs in places within the large, hypertrophic fibres. This is manifested by the presence of deep, longitudinal furrows on the outer surface, and by fine dividing lines, which penetrate its thickness.

Thus far, the hypertrophy of the myocardium rests on that of its single fibres. But at the same time, one is justified, as far as can be shown histologically, in affirming the existence of a true hyperplasia, which, however, is very limited. This pathological condition agrees, in the main, with physiological growth; for observation has here shown, that the increase in volume in single fibres, is to be considered the essential factor in the development of the heart, while the setting off of new cells falls far behind this. When, however, at the same time, an increase of the connective tissue can be shown, an important place must be conceded to this in enlarging the volume of the heart, although it is associated with the disappearance of a few fibres.

[4] Virchow's Archiv., Vol. 103, page 88.

Hospital Practice and Clinical Memoranda.

CASES OF TUMOR IN HERNIA REGIONS.

SERVICE OF DR. ABNER POST, BOSTON CITY HOSPITAL.
REPORTED BY GEORGE WM. PERKINS, *House Surgeon*.

FATTY TUMOR OF LABIUM MAJUS.

CASE I. A. M., single; twenty-six years old. Entered Boston City Hospital, November 4, 1885.

Ten years ago, she first noticed a small, hard lump, about the size of her finger-tip, on the inner side of left labium majus. This did not grow noticeably larger for the next six or eight years, but during the past two years, it has gradually increased in size, till it is now as large as a "turkey's egg." It has always been painless, and never caused any inconvenience in walking, micturition, or menstruation, which begun at eighteen, and has been regular and normal since.

November 9th. Examination under ether showed left labium greatly enlarged, overhanging and concealing the right, the skin covering it smooth and tense. The swelling was perfectly translucent, flat on percussion, and gave a distinct wave of fluctuation. Both external and internal (vaginal) examination failed to show any connection with the abdominal cavity. No ring could be felt, and no impulse on cough, or variation in size with change in position, was obtained. The tumor most perfectly resembled a hydrocele, and the rarity of that disease was the only reason for hesitation in making a positive diagnosis. Several punctures with aspirating needle brought only a single drop of blood.

An incision about one and a half inches long, and

careful dissection, disclosed what was evidently a fatty tumor, which shelled out easily, with only slight bleeding; about size and shape of a normal kidney. Drainage-tube, sutures, iodoform antiseptic dressing, firm, elastic pressure by sponges, and a spica bandage were applied.

November 10th. No pain, or discomfort even. Temperature, 100.5°; pulse, 85; both the highest at any time. November 24th. Swelling nearly gone. Discharged.

TUMOR OF SPERMATIC CORD.

Case II. M. P., twenty-five; single; born in Italy; barber. Entered hospital November 2, 1885. Three years ago, a small, hard swelling, size of finger-tip, was first noticed in scrotum, above the right testis. It has gradually increased in size, till it is now as large as a hen's egg. Never painful, except during last two weeks. No history of injury; denies any venereal disease, and gives no history of secondary symptoms. The family state that the swelling has always existed. Swelling was aspirated two weeks ago, but no fluid obtained.

Examination: Puny, and subnormally developed. In right scrotum, is a fusiform swelling about one and a half by one inch, apparently continuous with spermatic cord, which is enlarged; it is smooth, hard, elastic, not fluctuating; not translucent. There is no heat, redness, tenderness, or pain, on handling. No impulse on cough.

Testis, with epididymis, in apparently normal condition can be distinctly felt below, separated a finger's breadth from, the growth. Small, inguinal hernia on the left side. Appears to have two pairs of testes, the two abnormal swellings lying above the normal glands. Lips of meatus everted and reddened; slight gleety discharge from urethra. No evidences of syphilis found. Glands in right groin not noticeably enlarged. Absolutely declined any interference, and left the house November 7th.

Re-entered November 18. Pain had increased, so that he could not sleep, and tumor had grown rapidly. Had no treatment outside, except six leeches to scrotum. Right side of scrotum œdematous and ecchymosed from leech bites. The swelling is, at least, a third larger than on discharge, extending to the external ring, which is filled by the cord, enlarged to a diameter of half an inch. Below, the testis is no longer separable as a distant mass, but is continuous with the tumor, and distinguishable only by its softer consistency. Tumor is as hard as cartilage. In right groin, are two or three enlarged and tender glands. Pain is felt on pressure over the course of the inguinal canal.

November 20th. Etherized, and tumor and testis removed together, the cord being cut high up. Tumor was firm, and hard as cartilage, solid, except a small cavity in centre, containing brownish fluid and cheesy matter. Testis was not involved in the growth. Counter-opening, drainage-tube, and continuous silk suture; antiseptic iodoform dressing.

Report from Dr. Gannett, the pathologist of the hospital, says cyst wall was made up of dense, connective tissue, infiltrated with round cells in places. "Hypertrophy, due to chronic inflammatory action. No neoplasm tissues."

December 2d. Healed, except small spot of granulations. Open dressing. Discharged December 23, with very small, superficial, granulating surface, and general condition much improved, with no indication of return of disease, or of extension to pelvis or abdomen.

CRYPTORCHITIS.

Case III. John F. K., twenty-seven, single; born in Boston, bootblack. Entered hospital July 30, 1885. Has undescended testis on right side. Has always been able to protrude testis from the abdomen through the canal, and beyond the external ring, at will, by straining. Says that about three hours before entrance he found a small bunch in right groin, and soon afterward a second swelling, just above and external to the first, was found. Both were painful and tender. About ten years ago he had a similar swelling, painful and tender, which disappeared with rest and poultices.

Examination:— Healthy man, below medium size. Slight purulent discharge from urethra. No testis in right half of scrotum. Just above external ring on right side, is an ovoid swelling about an inch long and half an inch wide, somewhat reddened, painful, and tender. Patient recognizes it positively as the testis. Just above and a little to the outer side, is a swelling, two inches in diameter, having the shape of a flattened dome, not red but tender, painful, and flat on percussion. External ring on right side admits readily the finger tip. Slight impulse on cough. Examination is exquisitely painful. About three hours after entrance both swellings suddenly disappeared, spontaneously, and every symptom vanished.

July 31st. Investigation demonstrated the truth of the patient's statement. He could voluntarily protrude the testis through the internal ring and into the canal, but not at that time through the external ring.

The gonorrhœal epididymitis which was suspected to be the cause of the great pain could not be demonstrated.

CYSTIC TUMOR ABDOMINAL WALL.

Case IV. John B., twenty-two, single; born in Ireland, hostler. Has always had good health; no history of venereal. Since five years old has had a lump of the size of a silver quarter in right groin, which has never caused him pain or inconvenience. Says that a Doctor "put it back" in childhood. A week before entrance first noticed that it was getting rapidly larger, and becoming red, tender, and painful. Entered hospital August 31st. Had had no treatment previously, and worked till day of entrance.

Examination:— Strong, healthy man. No constitutional symptoms. In right groin in the region of inguinal canal was a subhemispherical, smooth, red swelling, about four by two and one-half inches, extending to the left about one-half inch beyond median line. Not especially tender or painful. No impulse on cough. Well marked superficial fluctuation. No evidence of venereal disease. Testes normal.

September 3d. Etherized and incision made and thin yellowish clear fluid obtained. Tumor found to consist of a large cyst, surrounded by many small ones, with trabecular walls, all lying within the abdominal parietes, and not communicating with the cavity.

The mass was excised and wound packed with iodoform gauze and left to granulate.

11th. First dressing, healthy granulating area. Had no symptoms of any kind, and was discharged relieved with only small superficial granulating surface September 28th.

Reports of Societies.

NORTH ESSEX DISTRICT MEDICAL SOCIETY.

THE annual meeting of the North Essex District Medical Society was held at the Essex House, in Lawrence, May 5th, the President, Dr. J. A. Douglass, of Amesbury, in the Chair.

DR. GEORGE W. SNOW, of Newburyport, reported a case of unruptured and apparently imperforate hymen in a pregnant woman, discovered during parturition, and artificially ruptured, to allow the passage of the child.

DR. R. C. HUSE, of Georgetown, read a paper upon

OLD REMEDIES,

being one of two essays that obtained a prize offered by the Society last year. Dr. Huse began by calling attention to the general tendency towards simplicity in therapeutics, the potential elements of composite drugs being constantly sought for. The more pronounced the action of a drug in health, the more we turn to it, in the hope of utilizing that action in disease. The reader then rapidly reviewed the action of familiar remedies — iron, potassium iodide, mercury, hamamelis, black cohosh, tartar emetic, squill, ipecac, veratrum viride, ammonium muriate — as discovered in medical literature, and in his own experience, and closed with the following summary of the purport of his essay: "What I wish to convey in this paper is this: While we have a multitude of new remedies, which no man can number, we are losing sight of the value of old remedies of positive, and perhaps unknown value, simply because we do not investigate thoroughly their scope. Nor should we employ complicated and heterogeneous mixtures for prescriptions. Make the remedies simple, and watch the effect of one at a time. Don't cover up a less potent remedy with a dose of morphine, which obtunds all the sensibilities, and obscures the symptomatology." The essay was succeeded by a prolonged discussion.

Dr. Charles E. Durant and Dr. C. D. Jones, of Haverhill, were admitted to membership, the former from the Suffolk, and the latter from the Middlesex North Districts.

The list of officers elected for the ensuing year, has already been published.[1]

After the annual dinner, adjourned, to meet in Newburyport in October.

BOSTON SOCIETY FOR MEDICAL OBSERVATION.

H. L. BURRELL, M.D., SECRETARY.

MEETING April 5, 1886. DR. H. R. STEDMAN, in the Chair.

DR. T. W. FISHER reported

TWO UNUSUAL CASES OF INSANITY, PROBABLY OF EPILEPTIC ORIGIN.

(Reserved for publication.)

DR. DENNY spoke of the importance of deciding the reality of symptoms pointing to an attack of petit mal, especially in certain medico-legal cases. One should differentially diagnosticate the vertigo of a petit mal from that due to Bright's disease, hysteria, anæmia, or hyperæmia of the brain.

He considered that epilepsy may manifest itself simply in the form of a petit mal; and thought that a sudden lapse of memory was a very important symptom. He cited two cases of patients that he had observed. The first was a young man, twenty-two years of age, of good family, who had forged his father's name, and was placed in jail. Dr. Denny, in examining him, noticed certain occasional losses of memory, slight transient attacks of aphasia and occasional alternate contractions and dilatations of the pupil, not due to light; after having noticed these symptoms several times he became convinced that the young man was a subject of attacks of petit mal.

The second case was of a young lady, twenty-seven years of age, who had attacks of grand mal, and absolutely knew nothing about them, never remembering them. He considered that it was therefore of great importance to inquire of the friends regarding attacks of unconsciousness in any given case.

Regarding the significance of the phenomenon of alternate contraction and relaxation of the pupil, without the effect of light, he said that the only other influence which he knew of that would produce this effect was pinching the neck in the neighborhood of the cervical ganglia.

DR. CHANNING considered that epilepsy and insanity not infrequently co-existed, and that they were not necessarily dependent upon one another.

DR. F. B. HARRINGTON then read a paper upon

RESULTS OF THE INTRAVENOUS INJECTION OF SALT SOLUTIONS.[1]

DR. R. H. FITZ asked how the temperature of the solution was kept up.

DR. HARRINGTON said that he filled the reservoir and kept the supply of warm solution in a jar of hot water, filling the reservoir from time to time.

DR. FITZ asked the reader for the indications that a sufficient quantity had been injected, and whether any dangerous symptoms had arisen from an excessive infusion.

DR. HARRINGTON considered that the quantity of fluid to be used in a given case was largely a matter of judgment, and this depended upon the general improvement of the condition as shown by the pulse, respiration, etc. He had never heard of any dangerous symptoms arising during infusion.

He said that the infusion should be conducted very slowly, but that there was a certain danger in this, as the blood might flow into the canula and form a clot.

DR. FITZ said that apparently the benefit in infusions was confined to cases of acute anæmia. He called attention to the results from hydræmia plethora as described by Cohnhein. Experiments on animals showed that enormous quantities of salt solutions, at least six times the volume of the animal's blood, might be injected without a fatal result. The only observable superficial œdema is in the vicinity of the salivary glands. The excess of fluid is rapidly eliminated through the structures of the body whose normal functions is to permit abundant transudation.

DR. E. O. OTIS inquired how great was the danger of entrance of air entering the vein, and what precaution was necessary, also if the accident had ever happened in any of the cases he had reported.

DR. HARRINGTON said that he perhaps should have spoken of the care to be used in carefully isolating the

[1] Journal, May 13, page 453.

[1] See page 481.

vein, then a ligature is placed beneath the vein, the canula is introduced, and then the ligature should be secured about the canula and vein.

One, of course, allowed the fluid to flow through the canula before introducing it and then by watching the glass reservoir one might be almost sure that no air was introduced. As far as the reader knew, the accident of air embolism had never occurred in the operation of infusion.

Dr. E. O. Otis also asked what vein or artery Dr. Harrington would take for the infusion in case, for any reason one could not get at the veins at the fold of the elbow or the radial artery.

Dr. Harrington thought the external jugular vein would be taken.

Dr. Otis exhibited an apparatus for salt infusion made after Dr. Bull's pattern, consisting of a large irrigating bottle graduated in cubic centimeters from above downwards so that one could tell at a glance the exact amount of the solution that had been injected. A rubber tube and canula were attached as in Dr. Harrington's apparatus. The bottle was graduated to two thousand cubic centimeters.

AMERICAN CLIMATOLOGICAL SOCIETY.[1]

SECOND DAY, TUESDAY, MAY 11. — MORNING SESSION.

The first Vice-President, Dr. Frank Donaldson of Baltimore, in the absence of the President occupied the chair.

The report of the committee on the health resorts was received and ordered published in the transactions.

The first was by Roland G. Curtin, M.D., Philadelphia, on

ROCKY MOUNTAIN FEVER.

The speaker in the first place referred to a communication received from Dr. D. G. Dougan of Denver, Colorado, bearing upon this subject. The experience of Dr. Dougan had led him to regard all cases of mountain fever as belonging to one or another of the well known already classified varieties. The cases, however, present variations from the usual course of the fevers to which we should assign them. Some of the cases are ephemeral in character and difficult of classification. The fever especially designated by the name mountain fever presents many features of typhoid fever. Some of the reasons for believing these cases to be an irregular or mild type of typhoid fever are as follows:— Such cases are usually seen at the season of the year when typhoid fever is most prevalent. They occur most commonly under conditions favorable to the development of typhoid fever; not infrequently cases will present some characteristic feature of typhoid, leaving no doubt as to the diagnosis. In the high altitudes where mountain fever is said to occur, a large proportion of the cases of undoubted typhoid pursue a remarkably mild course. Dr. Dougan concluded with a protest against admitting mountain fever as a specific disease, until its right to such a position had been proven by clinical and pathological researches.

In 1868, Dr. Curtin had seen in Wyoming Territory four cases which had been diagnosticated as mountain fever. At some point in the disease, all these cases had diarrhœa and in one it was continuous. One of the patients died suddenly at the end of three weeks, but no autopsy was made. In one case, there was a doubtful eruption. One of the cases had epistaxis in the beginning of the illness. Tympanites was more or less marked in all cases. Dr. Curtin considered these cases to be typhoid or typho-malarial in character. Sometimes the cases belonged in all probability to the class termed simple continued fever. The diagnosis of mountain fever was doubtless in large part the result of incompetency on the part of the observers, and the use of the term is continued largely as a result of fashion.

The opinion of other investigators was cited, all of whom expressed views similar to those given above.

The paper was discussed by Dr. Schauffler and Dr. Bell.

HOW THE THERAPEUTIC VALUE OF OUR MINERAL WATERS MAY BE INCREASED

Was the title of a paper by Dr. C. C. Rice, of New York.

The following conclusions were advanced: —

1. Physicians should make a careful analysis of our mineral springs.

2. The medicinal values of the waters should be tested by clinical investigation, and the conclusions published for the benefit of the profession.

3. If the waters are found to present marked merit, the physician should interest himself in developing the springs, improving the bath-houses, etc.

4. Physicians in sending patients to the springs, should be more careful to select the proper water, and should send with the patient the diagnosis and history of the condition for the benefit of the physician at the baths.

5. The patient while at the baths, should be under a more rigid medical discipline.

6. The social life of our watering places should be reorganized.

The following papers describing the climate of various places were then read:

THE CLIMATE OF MEXICO, by Dr. Didama, Syracuse.

THE SOUTHERN ADIRONDACKS, by Dr. Edward T. Bruen, Philadelphia.

THE CLIMATE OF EL PASO, TEXAS, by Dr. E. W. Schauffler, Kansas City.

SOUTHERN PINE PARK, A NEW HEALTH RESORT IN NORTH CAROLINA, by Dr. A. N. Bell.

TUESDAY AFTERNOON. — BUSINESS MEETING.

The following officers were elected: *President*, Dr. Frank Donaldson, Baltimore; *First Vice-President*, Dr. V. Y. Bowditch, Boston; *Second Vice President*, Dr. Roland G. Curtin, Philadelphia; *Secretary and Treasurer*, Dr. J. B. Walker, Philadelphia; *Additional Member of Council*, Dr. F. C. Shattuck, Boston; *Elected to Membership*, Dr. F. Donaldson, Jr., Baltimore; Dr. G. R. Butler, Brooklyn; Dr. W. Matthews, U. S. A.; and Dr. J. H. Musser, Philadelphia.

A memorial was presented by Dr. J. Ewing Mears, Secretary of a Special Committee of the American Surgical Association, appointed to consider the proposition with reference to the establishment of a "Congress of American Physicians and Surgeons." The substance of this proposition has already been published and commented upon in our editorial columns.

[1] Concluded from page 473.

The paper on the

CAUSATION OF PNEUMONIA,

By HENRY B. BAKER, M.D., Secretary of the Michigan State Board of Health, was accompanied by many tables, and by sets of thirty-one illustrative diagrams, which were distributed to those present. These diagrams were drawn accurately to scale, and represented immense numbers of cases and deaths from pneumonia, and meteorological observations at the same times and places. The magnitude, and hence the probability of their accurately representing average conditions, may be inferred from the fact, that the curve for temperature in Michigan was based on 154,500 observations; that the curve for sickness from pneumonia in Michigan, which followed so closely the curve for temperature, was based on 31,014 weekly reports of physicians, 5,473 deaths from pneumonia in Michigan are tabulated, and graphically shown; as also 114,119 deaths in London, England; also 11,596 deaths and 49,487 cases of pneumonia in the United States armies during the three years, 1862–64, about 10,000 cases of "respiratory disease" (not including phthisis), in the European and native troops in India, were also shown in diagrams, with a curve of the temperature at representative stations. The statistics of the other States and countries serve to re-inforce those of Michigan; and Dr. Baker says he has found no statistics which conflict with conclusions drawn from the Michigan statistics, although he considers the statistics of sickness in Michigan the most reliable of all. The following is an abstract of the paper:

Employing the data collected in the office of the Michigan State Board of Health, relative to the sickness of pneumonia, and the coincident meteorological conditions in Michigan, more especially during the eight years, 1877–84, I find that certain meteorological conditions are so uniformly associated with sickness from pneumonia, as to make it appear that they bear a causal relation to that disease. The atmospheric condition which is most closely associated with pneumonia, is the night ozone; but, although it is, perhaps, one factor, the manner in which it is associated does not indicate that it is always the controlling factor in the causation of pneumonia. Besides, the amount of ozone is, to a great extent, controlled by the temperature; therefore, I think ozone is not a primary cause. The velocity of the wind has rather close relations to the disease. Variations in atmospheric pressure appear to have influence in the causation of pneumonia. Relative humidity of the atmosphere has apparent relations to the disease in some months, but it also depends largely upon the atmospheric temperature. Absolute humidity of the air has very close relations to pneumonia, and in such manner as to indicate a causal relation. That condition of the air, however, is, so far as relates to outdoor air, almost wholly controlled by the temperature. Finally, the curves representing the average temperature uniformly bear a very close relation to sickness from pneumonia; and the curves representing sickness follow uniformly at such a period after the temperature curves, as to make it seem certain that the sickness is, directly or indirectly, caused by a comparatively low temperature.

So far, the result is only to prove, in a scientific manner, the truth of more or less widespread beliefs since the time of Hippocrates. But what follows, may render this contribution more acceptable. The difficulty in the way of accepting the hypothesis, has been to understand how it is possible for cold to cause pneumonia. Thus, Professor Rindfleisch has said: "Even when, based upon some unequivocal observations, we have proclaimed the taking cold as the common cause (of croupous pneumonia), there has yet, by this, no insight been obtained into the process of taking cold. For what has the partial refrigeration of the outer skin to do with the inflammation of an interior organ?" The key to this "insight," which Professor Rindfleisch has said is wanted, has seemed to me to be the fact that the "refrigeration" is not so much of the "outer skin" (which is usually covered with clothing), as it is of that inner skin — the mucous lining of the lungs and air-passages, and which we are liable to forget is so extensive — amounting, as it does, according to Professor Dalton, to about 1,400 square feet of surface, in an ordinary adult person. We are also liable to forget the quantity of vapor of water constantly being taken out of the body by way of the lungs; and my tables show that the quantity of vapor exhaled in excess of that inhaled, is much greater in January than it is in July, in Michigan, because the quantity which enters the lungs with the air inhaled differs greatly, according as the air is, or is not, saturated with vapor, and especially, according to the temperature at which the air is inhaled. The higher the temperature (within ordinary limits), the greater the amount of vapor of water it will contain; thus, according to Professor Guyot's tables, based upon experiments by Regnault, a cubic foot of air at the temperature of zero, Fah., if saturated with vapor of water, contains five Troy grains; at the freezing point, it contains two grains; at 70° F., it contains eight grains; at 98° F., it contains 18.69 grains. Thus the absolute humidity of the air is controlled, as to its maximum, by the temperature of the air. The air exhaled from the lungs has been in constant contact with moist surfaces throughout its passage into, and out from the lungs; it is therefore probably nearly saturated with vapor of water, and at a temperature not far from 98° F. Assuming this, each cubic foot of air exhaled contains 18.69 grains of water; assuming eighteen respirations per minute, of twenty cubic inches of air each, there will be exhaled daily, 11.68 Troy ounces of water.

This is not as much, by four or five ounces, as is stated by some physiologists, but it is convenient to have a standard arrived at by means the same as those with which we must deal in studying the influence of meteorological conditions, so I continue to employ this method and standard. The absolute grains of vapor in each cubic foot of the atmosphere at any given place and time, are ascertained by means of the wet-bulb and dry-bulb thermometers, and the use of tables. Knowing the "absolute humidity" of the atmosphere for every day in each year, as we now do in Michigan, it is easy to compute the quantity of vapor inhaled daily at each season of the year, assuming, as above, eighteen respirations per minute, of twenty cubic inches of air each. This, subtracted from the 11.68 ounces exhaled, gives the excess of moisture exhaled over that inhaled. Cold air is, as we have seen, always dry air, and whenever air is warmed, as it is in the lungs, its capacity to retain vapor of water is increased, and its demand for water is great. Thus when warm air saturated with water is inhaled, one effect is to lessen the passage of fluids from the blood into the air-cells and air-passages; when the air inhaled is cold and dry, an increased

quantity of fluids must pass from the blood into the air-cells, in order to keep them in the normal moist condition.

The fluid, which constantly passes from the blood-vessels into the air-cells, contains some of the salts of the blood, and such as are volatile, will pass out with the vapor exhaled at every breath; but such salts as chloride of sodium will not readily pass off with the vapor, the usual mode of preparing salt from brine being by the evaporation of the water therefrom. For many years, it has been known that chloride of sodium, which is found in the urine of healthy persons, is absent during the onward progress of pneumonia, and reappears in the urine when the patient is convalescing. For several years, I tried to obtain such analyses of sputa and lungs of persons dead from undoubted pneumonia, and comparisons with sputa and with lungs of persons who did not have pneumonia, as would show whether it was as I supposed — that during the onward progress of pneumonia, the chloride of sodium passed from the blood into the air-cells, and accumulated there, because it did not so readily pass off as did the vapor of water. However, we are not left to conjecture or hypothesis as to the course which chloride of sodium takes, when, during the onward progress of pneumonia, it disappears from the urine. In Vol. XXXV. of the Transactions of the Royal Medical and Chirurgical Society of London, published in 1852, is a paper by Lionel Smith Beale, wherein he shows, by such analyses as those I have outlined, showing the chemical composition of the sputa and of the lungs, that the chlorides, which, during pneumonia, disappear from the urine, do appear in the sputa and in the air cells of the lungs at such times.

The meteorological and other statistics which I have collected, show that at such times as pneumonia is most caused, there is an unusual demand upon the air-cells for fluids; their function, in this respect, is unusually taxed. Passing into the air-cells with the fluids, are certain salts which do not pass out with the vapor; this is shown by *a priori* evidence, and also by the analyses by Dr. Beale. The salt which accumulates is an irritant.

It has been held that the extraordinary stimulation of an ordinary function of an organ or part of the body, leads to the congestion, and even to inflammation, of that part.

If this be accepted, the causation of pneumonia is now, perhaps, sufficiently shown.

There are, however, certain facts concerning pneumonia which to my mind can now be more fully explained than is done by the foregoing. Prominent facts in the pathology of pneumonia are those which relate to the fibrinous exudate in the air-cells. Changes in the blood pressure do not seem to fully account for all of them. The curve for atmospheric pressure does not seem to have uniformly quantitative relations to pneumonia. One of my diagrams shows that the average daily *range* of the barometer has such relations as to indicate a possible causal relation. It may be noted, in passing, that in albuminuria there is, as in pneumonia an exudation of unformed material which is not subsequently organized. Speaking of the diseases most associated with pneumonia, Dr. Sturges says: "Thus it will be seen from the appendix that renal disease figures largely among the preëxisting morbid conditions of the individuals enumerated." He also says: "It appears upon calculation that pneumonia in kidney disease is most frequent in the so-called amyloid or waxy degeneration. According to Dr. Dickinson the marked tendency to inflammation which characterizes this change is seen most conspicuously in the lungs, and next, most often in the pleura."[2]

I have shown how, through the inhalation of cold, dry air, the exudation of fluids into the air-cells is increased; and how, by the unusual evaporation of that fluid an unusual quantity of the chloride of sodium accumulates in the air-cells. It remains to point out how, through the influence of that chloride of sodium in the air-cells, the exudation into them of the albuminous constituents of the blood serum is probably favored. Professor Dalton, in his Physiology says: "But a substance like albumen, which will not pass out by exosmosis toward pure water, may traverse a membrane which is in contact with a solution of salt. This has been shown to be the case with the shell-membrane of the fowl's egg, which if immersed in a watery solution containing from three to four per cent. of sodium chloride, will allow the escape of a small proportion of albumen. Furthermore, if a mixed solution of albumen and salt be placed in a dializing apparatus, the salt alone will at first pass outward leaving the albumen; but after the exterior liquid has become perceptibly saline, the albumen also begins to pass in appreciable quantity."

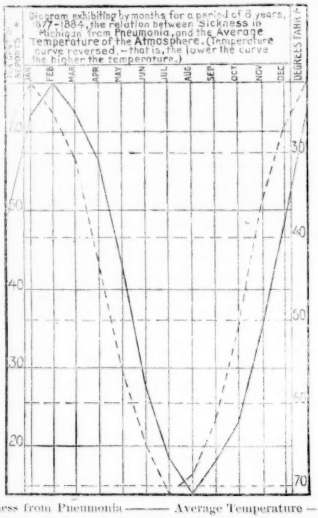
It seems significant that two organs in which an albuminous exudation occurs so marked as in the kidneys and the lungs should both be so constituted as that these facts relative to the exosmosis of albuminous substances should be applicable; because chloride of sodium is normally excreted by the kidneys, and as it passes by osmosis with extreme facility, the first beginnings of the urine would naturally contain it, so that when the blood is unusually saline the urine in the uriniferous tubules may be sufficiently saline to induce the exosmosis of albumen from the bloodvessels. But while this may occur in the kidney, one condition seems to make it more probable in the lungs, because in the lungs, through the constant evaporation of the fluids exuded, the salinity of the remaining portion may be constantly increased.

Whether the ultimate fibrinous character of the exudate in the lungs is due to the blood placques, or is a result of the oxidation of the albumen otherwise induced, before or after the oxidation, it may be well to notice that the diagrams that I present show close relations between the curves for atmospheric ozone and pneumonia. An albuminous or a fibrinous exudate is a favorable situation for the reproduction of micro-organisms. Whether in pneumonia there are or are not such low organisms as the "pneumo-coccus of Friedländer, the statistics which I present show that the causation of the disease is absolutely controlled by the meteorological conditions. The facts that one attack does not protect from another, and that persons who have had it are more likely to have it again, are against its being a specific disease, but not against the mode of causation which I have pointed out.

In statistics the variety of pneumonia is not usually stated. The data which I present seems to prove that in Michigan it is all, or nearly all, of one kind, causally, otherwise it would not have absolutely quantitative relations to the temperature as it is shown to have in the accompanying diagram. The reason why that diagram shows smoother curves than the others, is I

[2] Natural History of Pneumonia, Sturges, p. 82.

think, because the details of the observations and reports were more accurately attended to. The meteorological observers were supplied with standard thermometers, the stations were representative of the area in which the sickness was, the reports of sickness were made weekly by leading physicians in active practice, and the compilation has been done with great care to learn the exact truth.



Sickness from Pneumonia ——— Average Temperature — — — —

*Of all reports received, the per cent. which stated the presence of pneumonia then under the observation of physicians reporting.

Whenever the views here presented shall have been accepted, numerous questions will arise,— as to the diet,— favorable to keeping the blood in the condition to best resist the tendency to pneumonia, as to methods of treatment, whether by warm, moist air, and especially as to how best to control the condition of the air breathed by persons generally as to lessen the danger of their contracting the disease. One lesson seems obvious, namely, the importance of moistening all air which requires to be warmed, in houses, offices, public buildings, and wherever such conditions of the air inhaled can be controlled.

SUGGESTIONS REGARDING THE PREVENTION OF PHTHISIS IN MILL-HANDS,

by DR. J. H. MUSSER, of Philadelphia.

The speaker stated that it was rather to prevent that state of the system which often leads to phthisis, that he desired to make some suggestions. The suggestions more particularly referred to factory laborers. He showed that states of ill health were common in this class of artizans, and asserted that it was very largely due to an inadequate supply of food, which was improperly selected and prepared, and to carelessness in attention to digestion. This cause obtained more largely than bad hygienic surroundings, or than the occupation itself.

If this be true, the remedy proposed was to have the plan of the Willimantic Cotton Company used by all mill proprietors. That company has proved by experience and careful calculation that it pays them in quality and quantity of work done, to supply milk to their boys and bouillon to their women twice daily, and that the health of the operatives is promoted and their lives prolonged thereby. Dr. Musser trusted that the members of the society could influence proprietors to adopt this plan, and therefore close one of the avenues to disease and death.

A STATISTICAL INQUIRY REGARDING THE RELATION OF HIGH ALTITUDES TO NERVOUS DISEASES,

by DR. C. L. DANA, of New York.

The speaker presented the results of inquiries made at his request, of twelve physicians living in Colorado Springs, regarding the effects of high climates on the nervous system in health and disease. The majority thought that chorea in children was most frequent there than in lower altitudes: That the climate was bad for nervous women. The high altitudes do not necessarily injure epileptics, and in anæmic cases might cause improvement. Insomnia dependent upon anæmia and mal-nutrition, was benefitted and generally cured. The climate had no specific influence for good upon diseases of the spinal cord, and if anything, the contrary. The speaker was of the opinion that high altitudes had a tendency to excite lithæmia and arthritism with consequent irritating effects upon the nerve centres. The best effects of the climate were seen in anæmic insomnia, neurasthænia and melancholia.

DR. R. G. BUTLER, of Brooklyn, read a paper on

MITRAL STENOSIS

giving the histories of fourteen cases.

The president announced as the committee to confer with the committees of other special societies with reference to the establishment of a "Congress of American Physicians and Surgeons," Dr. A. L. Loomis, of New York, Dr. F. Donaldson, of Baltimore, Dr. F. C. Shattuck, of Boston, Dr. E. T. Bruen, of Philadelphia, and Dr. W. W. Johnson, of Washington.

It was resolved to appoint a committee of three, with Dr. C. C. Rice as chairman, to investigate the therapeutical properties of the different mineral springs.

After passing a vote of thanks to the College of Physicians for the use of their hall, the society adjourned *sine die*.

NEW YORK NEUROLOGICAL SOCIETY.

STATED Meeting, April 6, 1886. C. L. DANA, M.D., in the chair.

The following named gentlemen were elected to office for the ensuing year: for *President*, C. L. Dana, M.D.; for *First Vice-President*, M. A. Starr, M.D.; for *Second Vice-President*, B. Sachs, M.D.; for *Recording Secretary*, G. W. Jacoby, M.D.; for *Corresponding Secretary*, W. M. Leszynsky, M.D.; for *Treasurer*, E. C. Howard, M.D.; for *Councillors*, E. C. Harwood, M.D., L. Weber, M.D., E. C. Seguin, M.D., W. R. Birdsall, M.D., G. M. Hammond, M.D., and A. D. Rockwell, M.D.

A NEW THERMO-CAUTERY.

DR. GRÆME M. HAMMOND presented the instrument, consisting of a Bunsen burner, which by the action of a spring and clamp throwing a platinum tip at right angles to the burner, could at once be converted into a thermo-cautery. It had the advantage

over the ordinary Paquelin cautery of being always ready for use.

CASE OF MEDIAN NERVE SUTURING.

DR. FRASER C. FULLER presented a man who two and a half years ago sustained a glass-cut wound of the lower forearm, resulting in complete division of the median nerve and a part of the sublimus flexor. The nerve was sutured with three small strands of catgut a few hours after the injury. The tendons were also united. The operation and dressing were absolutely antiseptic, and primary union took place.

At the time of the operation there was complete cutaneous anæsthesia of the region supplied by the nerve. After several months sensation slowly returned, and a year and a half after the operation it was perfect. Power in the small muscles of the affected hand had not entirely returned.

Dr. Fuller referred to another case in which spontaneous recovery took place, operation being refused. There occurred, however, deep necrosis of the finger tips, and to constant care and energetic electrical treatment only could the eventual recovery be attributed.

DR. DANA thought that the case illustrated very well the result of the experiments of Johnson and Stockholm that divided nerves if sutured healed in about sixty days, but if let alone they heal in about ninety days.

DR. B. SACHS then read a paper entitled,

PRELIMINARY REPORT ON A CASE (WITH AUTOPSY) OF TUBERCULAR DISEASE OF THE SPINAL CORD.

After a few introductory remarks the reader gave a full report of the case of which the following is a short abstract: The trouble which was supposed by the patient to be rheumatic began with pains in the left shoulder which radiated down into the arm, forearm and hand; by degrees the pain became more intense; for the first it was confined chiefly to the area of distribution of the ulnar nerve, but had gradually spread over the entire dorsal and volor surface of the left arm and hand; in addition to this hyperæsthesia (and hyperalgesia), to puffiness of the fingers and to a glossy appearance of the skin, there was a marked weakness of grasp in this left hand, with only slight loss of power in the left upper arm and forearm. The condition of the left upper extremity remained unchanged during the entire course of disease, a period of about two months. At the time of the first examination, five weeks after initial pains, there were no other symptoms discoverable but these; a slight paresis and some hyperæsthesia of the left leg, exaggerated knee jerks and ankle clonus on both sides. These symptoms, chiefly unilateral, continued so until the close of the seventh week; meanwhile the paresis of the left leg had developed into almost complete paralysis; in the course of another week this unilateral paralysis was transformed into a complete paraplegia of the lower extremities. The motor paralysis also affected the abdominal muscles, and to some extent the respiratory muscles of the thorax, and the right upper extremity. Incontinence of urine and trophic changes in the skin were superadded. The sensory symptoms amount to a general hyperæsthesia of the left half of the body below the level of the third rib; this hyperæsthesia was changed toward the end of the disease into an anæsthesia which spread from the left half and finally involved the right leg and to a lesser degree the right half of the trunk and the right upper extremity. A tumor pressing upon the left posterior root fibres of one of the lowest cervical segments was thought sufficient to explain the unilateral symptoms; the bilateral symptoms were attributed to a cervico-dorsal myelitis. But there was no clue during life to the nature of the tumor. The autopsy showed a solitary tubercle situated on the left side between the sixth and seventh cervical segments followed by a cervico-dorsal myelitis; there were *very slight* tubercular deposits in the lungs and intestines.

In his remarks on the case the author of the paper attempted to explain the eccentric characters of the sensory symptoms, (no anæsthesia on the side opposite the lesion) the exaggerated knee jerks and presence of ankle clonus on both sides, and then referred in detail to the behavior of the muscular sense, which was lost on the side of the lesion and not on the side opposite the lesion. This was in accord with Brown-Séquard's views and opposed to those of Ferrier. In conclusion the reader asked for discussion of the following points: 1, Differential diagnosis between tumor and other forms of spinal cord disease; 2, Frequency of tubercular affection of the spinal cord substance; 3, Unilateral symptoms from spinal cord disease with special reference to disturbances of sensibility and of the muscular sense in particular.

DISCUSSION.

DR. M. A. STARR had, by invitation of Dr. Sachs, made an independent examination of the patient three weeks ago. That which caused them to hesitate in making a diagnosis was the difficulty of harmonizing the sensory disturbances with the assumption of an absolutely unilateral lesion in the cord. It had been said that Brown-Séquard had shown pretty conclusively that anæsthesia on one side, and hyperæsthesia on the other, were due to a unilateral lesion in the cord on the same side on which there was hyperæsthesia. The autopsy in this case showed pretty evidently that it did not fall in line with those of Brown-Séquard; that in the early stage, at least, of unilateral cord disease, anæsthesia of the opposite side of the body did not always exist. But it was impossible to draw any definite conclusions from a single case, and he had been unwilling to admit this one as being outside the usual line, because he had previously seen one at the Polyclinic, since reported by Dr. Taylor, as confirming, in all respects, the theory of Brown-Séquard. It was true no autopsy was obtained, but the symptoms seemed to be very definite. Dr. Starr thought the whole subject of sensory conduction in the spinal cord was in an unsatisfactory state. There seemed to be no doubt that the muscular sense tract lay in the column of Goll, and crossed in the medulla, not in the cord. That view was confirmed by Dr. Sachs's case. The areas of analgesia and hyperalgesia in the later stages of this case, were rather irregularly distributed, thus rendering the study of the sensory tracts in the cord extremely difficult. He had been impressed with the great hyperalgesia in the arms of this patient, the slightest touch, even of the nails, causing great pain. If the sensory tracts crossed just after entering the cord, why was there not anæsthesia on the right side in this case? Three or four cases had been recorded, in which there was some reason to believe that the sensations were conveyed upward through lateral tracts in the cord, anterior to, and a little outside of, the

pyramidal tract. Three or four cases had been reported in which there was ascending degeneration in this tract, and he had himself seen one, which was not yet reported. If sensations were carried upward in that portion of the cord, it would possibly explain some of the peculiarities in Dr. Sachs's case, in which that portion chiefly escaped.

DR. L. PUTZEL said that if Dr. Sachs referred to miliary tuberculosis of the cord, he could say, from his own experience, that it was not of very infrequent occurrence.

DR. SACHS said he referred to tuberculosis of the spinal cord substance, and not of the spinal meninges.

DR. PUTZEL had seen only one case of that kind, in which the disease gave rise to a myelitis, with all the symptoms of myelitis. Tuberculosis of the cord had not been suspected. The case occurred in a phthisical woman. It seemed to him, that the lesion in Dr. Sachs's case was so diffuse, that very little could be learned from it regarding localization and transmission of sensory impressions. Concerning Dr. Starr's views as to the muscular sense being conducted by the columns of Goll, he had seen, some years ago, a case of meningomyelitis, in which there was considerable thickening of the membranes posteriorly, and such degeneration of the columns of Goll, that it could be seen distinctly through the pia mater, yet there was not the slightest evidence of affection of the muscular sense.

DR. LEO had seen, in institutions, a number of cases of tuberculosis in patients suffering from locomotor ataxia, especially in old men.

DR. E. C. SPITZKA reviewed some of the points in the case, and said he thought the fact that tumors in other portions of the cord had not been excluded, deprived the case of much determining value as to the views entertained by Brown-Séquard, and referred to in the discussion. He had been somewhat surprised at some of the revelations made during the course of the discussion. He had not considered tuberculosis, either of the membranes, or of the substance of the cord, so common an occurrence in old age, that any single observer could have seen a large number of cases, and certainly, the suggestion made by Dr. Leo was worthy of following up. Regarding the muscular-sense tract, he thought that if a single case were to be accepted as disproving the supposed function of a given part of the cord, there was no part which could not be regarded as without function. He remembered that specimens had been presented before this Society, in which it was claimed that the columns of Goll had undergone slight degeneration, when it was found that there was only a slight thickening of the septum, from old age.

DR. PUTZEL remarked that the case which he referred to, was also examined by Dr. Welch.

DR. GRÆME M. HAMMOND said the question which interested him specially was whether exaggerated knee jerks and ankle clonis necessarily indicated an organic lesion. He had under treatment a gentleman in whom there was exaggerated tendon reflex and very marked ankle clonis in both the upper and lower extremities on the left side. There was no stiffness, pain, atrophy, or other symptoms of spinal disease. After a few doses of ergot, the ankle clonis and exaggerated tendon reflex disappeared, to return again after quitting the ergot, and disappearing with its renewal. Two or three years ago he exhibited before the American Neurological Association, a man cured of locomotor ataxia, and in whom there was entire absence of tendon reflex; yet under the influence of ergot the tendon reflex returned. We could hardly conclude that ergot cured true sclerosis or any organic disease. The question arose, were exaggerated reflexes and ankle clonis to be regarded as the effect of organic disease of the cord.

DR. PUTNAM-JACOBI inquired as to the relation between increased patellar tendon reflex and functional disease, and referred to a marked case of hysteria in which, during a protracted attack she noticed very marked exaggeration of the patellar tendon reflex.

DR. SPITZKA said that only a few days ago a child which had polio-myelitis, the right lower extremity only being affected, received for several days in succession, double the dose of strychnine which he had intended to administer, which had the effect of producing marked exaggerated knee jerks and ankle clonis, which had previously been entirely absent. He could not understand why ergot should produce the opposite effect, although he did not doubt that it had done so in Dr. Hammond's case.

In taking up the various points raised in the discussion Dr. Sachs wished to insist again on the importance of differentiating in his case between the symptoms due to the tumor and those due to the subsequent myelitis; the unilateral symptoms alone, could be put to the account of the tumor. Addressing himself to Dr. Spitzka, Dr. Sachs said he did not think it was necessary to suppose several lesions in the cord in order to explain the symptoms at the beginning of the case; the symptoms which developed later in the disease were attributed to the myelitis. Of the initial symptoms, the only one opposed to Brown-Séquard's views was the absence of anæsthesia on the side of the body opposite the lesion, and the author explained *that* on the supposition that the fibres in the sensory tract were only pushed aside, and not destroyed by the tumor, retaining their conducting power. Explained in this way the case could be made to accord with Brown-Séquard's views. As to the exaggerated knee jerks and double ankle clonus, it was admitted by almost all that exaggerated knee jerk might be present in comparatively normal conditions. The existence of ankle clonus without some changes in the lateral columns was questioned by many, but it was shown by Prof. Pitres to exist as early as eight hours after an apoplectic attack, and that therefore in his (Dr. Sachs's) case, it would not be necessary on account of these symptoms alone, to assume multiple lesions.

DR. SACHS agreed with Dr. Spitzka concerning the infrequency of tuberculosis of the spinal cord. The best authorities claimed that tuberculosis of the spinal cord substance was exceedingly rare.

DR. LEO, in reply to a question, said he did not claim that the tabes dorsalis in the cases which he had seen in old people was due to tuberculosis of the cord; the existence of the two diseases may have been a mere coincidence.

DR. G. H. HAMMOND thought that exaggerated tendon reflex or ankle clonus might be due to either a localized congestion or anæmia of the cord, and this would explain why in one case they were relieved by strychnine and in another by ergot.

— Dr. Reeves Jackson, of Chicago, says that statistics based on many thousand cases show that one marrage in every eight is childless.

THE NEW YORK ACADEMY OF MEDICINE.

Stated meeting April 15, 1886.

MEMORIAL PAPERS.

Memoirs of deceased Fellows and Officers were read, as follows: Alfred C. Post, M.D., by Dr. Stephen Smith; S. Oakley Vander Poel, M.D., by Dr. A. Vander Veer, of Albany, ex-President of the Medical Society of the State of New York; Austin Flint, M.D. by the President, Dr. A. Jacobi.

Dr. T. Herring Burchard read a paper on

PELVIC ABSCESS IN THE MALE.

Pelvic abscess in the male, he said, had not attracted the same surgical attention as those occurring in the female; but the serious nature of the affection was quite as great in the one as in the other, and its occurrence he thought more frequent than the meagre literature of the subject would lead us to suppose.

Five cases have fallen under Dr. Burchard's immediate observation. By pelvic abscess he wished to be understood as meaning a phlegmonous inflammation, occurring in the superior portion of the pelvic cavity, below the cavity of the abdomen, from which it is separated by the pelvic reflections of the peritoneum, and above the muscular floor formed by the levator ani muscle. It must not be confounded with abscess of the abdomen — typhlitic, perityphlitic, etc. — nor with those originating below the levator ani, in the ischio-rectal fossa. In the loose connective tissue which occupies this region, described by Richet as the pelvic-rectal space, abscesses occasionally form. From the peculiar anatomical construction of this space, with its bony lateral boundaries and its dense and almost impervious musculo-membranous floor, abscesses may originate here, producing most acute constitutional disturbance, and yet unaccompanied with any distinguishing symptoms that would call the surgeon's special attention to their existence.

Not only this, but following the general law of abscesses, to travel in the direction of least resistance, they will burrow internally to any distant parts without manifesting their presence by coming to the surface. Thus, they will dissect their way through the foramina of the pelvis, and appear externally under the gluteal muscles; they have penetrated the acetabulum and destroyed the hip-joint; they have dissected up the aponeurosis of the iliac muscles, produced necrosis of the ilium, and appeared upon the external surface of that bone. Or, again, the abscess, having emerged from the pelvic cavity, may travel anteriorly, following the course of the femoral vessels beneath Poupart's ligament, and make its appearance on the anterior surface of the thigh. Or, again, it may penetrate the hollow viscera and evacuate itself into the bladder, the rectum, or the peritoneal cavity. In fact, having once escaped its bony confines, there is no direction in which it may not travel.

Mr. Henry Morris divides such iliac abscesses of pelvic origin into two groups: (1) the sub-peritoneal, and (2) the sub-aponeurotic; the former of which being prone to spread widely, in both upward and downward direction, and the latter more circumscribed, forming between the fascia iliaca and iliac muscle, and producing caries or necrosis of the bone. The clinical history and symptoms naturally vary according to the acuteness or latency of the attack. Should the attack be acute, both the constitutional and the local disturbance are proportionally greater. In such cases the phlegmon forms rapidly, with great pain and corresponding febrile phenomena; and such an attack might readily be mistaken for one of general or circumscribed peritonitis. With the pain we have more or less abdominal distension, tympanites, vomiting and flexion of the thighs; all of which are characteristic of that disease. Micturition is difficult, or altogether impossible. The tumefaction may project into the rectum, setting up proctitis and tenesmus. Should the inflammation spread upward, localized or general peritonitis may result. Abscesses that form thus acutely are more likely to evacuate themselves spontaneously in either the rectum or the bladder than those of a sub-acute or chronic character.

Having quoted the history of a case illustrative of the truth of this statement, published by Dr. Bowditch in the First Medical and Surgical Report of the Boston City Hospital, 1870, Dr. Burchard went on to remark that just how speedily the inflammation might terminate in suppuration in these acute cases, it would be difficult to say. The inference was logical, he thought, that suppuration, when it occurs, does so some considerable time before it makes itself manifest by external tumefaction. It seems that the delay in getting the evidences of abscesses is not due to absence of pus, but rather to the difficulty the pus experiences, on account of the depth of the suppurative process, in coming to the surface. During all this time, however, the constitutional evidences of internal suppuration are more or less pronounced, and a carefully conducted examination at this stage may forestall and prevent many months of tedious suppuration, with its attendant evils.

Still, chronicity, rather than acuteness, seems to be the rule with pelvic phlegmons in the male, except in cases having a traumatic origin. The affection most frequently occurs in the poorly nourished and cachectic, and in such subjects inflammatory processes are slow, and suppuration tardy. A widely-diffused induration may pervade the pelvic cellular tissue months before its final breaking down into pus. The diagnosis in such cases is often very baffling, owing partly to the inaccessibility of the parts affected, and partly to the perplexity of symptoms that arise from so many different tissues, organs, bloodvessels, and nerves being implicated in the inflammation. As bearing upon the clinical history, Dr. Burchard related five cases which have come under his personal observation. Of these, the last was of greatest interest, and was as follows:

Peter Murphy, aged twenty-three, married, a porter by occupation. Always temperate and robust and strong up to March, 1882, at which time he was suddenly seized, after some unusual exertion, with sharp pains in the right iliac fossa, which lasted thirty hours. This paroxysm terminated in a dull, heavy pain, which extended across the hypogastrium into the left iliac region, and which continued with greater or less severity up to the time of this operation. In June, 1884, he was admitted to St. Luke's Hospital, suffering from the same intense pain. Poultices were applied, but no suppuration occurred. In the following August, after several unsuccessful aspirations, an abscess of the right lumbar region, midway between the iliac crest and the ribs, was evacuated by the late Prof. James L. Little. The case was regarded by him as one of perityphlitic abscess. At this time the patient's condition was very bad; with severe steady pain deep in

the pelvis and perineum, and darting pains extending through the rectum into the right testicle and down the sciatics. There were also priapisms, with involuntary nocturnal emissions. In December a second abscess formed, and was opened by Dr. Little.

Although suffering more or less constant pain, his health improved during the winter; but in March and July following other abscesses formed in the side and on the body of the ilium. These were also opened. In August and September he had the pain and constitutional disturbance of forming abscesses, but free incisions failed in giving vent to pus.

October 5. Patient's health evidently failing. All the old pains had returned. A careful examination under ether was made by Dr. Burchard, Drs. S. D. Powell and H. A. Mandeville assisting; but owing to the thickness of the abdominal walls from fat, this was very unsatisfactory. Rectal examination revealed nothing. A localized phlegmon over the ilium, two inches below and to the front of the posterior superior spinal process, was opened, and carious bone detected. This was removed by gouge and rongeur. The superficial caries led into a large abscess cavity in the ilium, and this in turn communicated, by a direct opening, with the iliac fossa. The finger, introduced through the bone, could detect nothing abnormal within the abdomen. The carious bone being thoroughly removed, a tent of bichloridized oakum was introduced through the ilium, and the wound partially closed.

October 29. After great pain, referred to the hypogastrium, right iliac region and right testicle, another abscess formed, and discharged through the opening in the bone. The source of this could not be detected, and both external and rectal examinations failed to throw light on the case. In the early part of December another abscess formed within the pelvis; but instead of discharging through the opening in the ilium, pointed over the crest, and was evacuated at this point. The patient's condition was now critical in the extreme. He was rapidly losing strength and flesh, and was being worn out with constant pain and suppuration, while albumen, with hyaline casts, appeared in the urine. It was felt that something effective ought to be done, and yet there was nothing tangible upon which to found a diagnosis, beyond the fact that at irregular intervals abscesses in the right iliac region would form and discharge. Repeated examinations were negative in their results.

Laparotomy was, accordingly, performed Feburary 1st, 1886, at St. Elizabeth's Hospital, by Dr. Burchard; Drs. H. Marion Sims, Mandeville, and C. W. Stinson assisting. An incision was made, commencing just above and posterior to the posterior superior spinous process, and following the bone downward for a distance of five inches. The dissection was carried through the abdominal muscles, and the peritoneum exposed. This he endeavored to detach from the fascia, but so firmly adherent was it, that in spite of very gentle manipulation, it tore. A flat sponge was introduced through the laceration, to hold back the intestines, while with the hand a through exploration was made. Almost immediately a mass of adhesions was found, that led to an old abscess cavity, which occupied the posterior half of the fossa, and extended, like a great sinus, directly from the ilium, over the line of the pelvis, and down into its cavity. No dead bone could be detected.

The sinus having been laid open, its walls, which were almost cartilaginous, were thoroughly revivified with a dull curette. The sinus through the bone was likewise curetted, and some carious bone removed. Two drainage-tubes of soft rubber, eight inches long, were carried directly to the bottom of the sinus, and the whole thoroughly irrigated with a solution of bichloride of mercury, 1 to 2,000. The abdominal wall was now closed with deep and superficial sutures. The incision leading through the bone was kept open, and drained from the bottom with iodoform and bichloridized oakum. A superficial dressing of borated cotton was applied over all.

The patient rallied well. On the third day, the temperature rose 102.2°, and the pulse to 120, and there was a very slight, circumscribed peritonitis. On the sixth day, the patient's temperature was practically normal, and the discharge from the tubes scarcely amounted to half a drachm. After this, the tubes were shortened gradually, and at the end of three weeks were entirely removed, from granulations having filled up the cavity of the sinus. The opening through the bone has likewise been filled in with new tissue, and is now closed.

Having presented the patient, who, he said, was in better health than he had enjoyed for years, to the Fellows of the Academy, Dr. Burchard went on to speak of the diagnosis and treatment of pelvic abscess in the male. Wherever cellular tissue exists in the body, there suppurative inflammation is liable to occur. The male pelvic cavity, as the grossest dissection will show, contains a large amount of cellular tissue, and, pathologically, it is no exception to the rule. Inflammation occurring here manifests itself, in addition to local distress or pain, which is generally severe in character, by the usual constitutional disturbances. After tumefaction has occurred, another set of symptoms arise, which are due to pressure on sensitive nerves and organs. Another feature peculiar to these abscesses is their tendency to burrow, and the very great dangers attending thereupon. Their natural destination should be the perineum, and such, doubtless, would be the case, were it not that the extremely dense fibres of the levator ani and prostatic muscles, which are largely composed of firm, fibrous tissue, present an almost impenetrable obstacle.

The next most natural route would seem to be the rectum, and here many of these abscesses are evacuated. Many, however, mount the pelvic cavity, and appear within the abdomen. After this, their course is erratic. Most of the abscesses appearing anterior to the bladder, in the so-called *carum retzii*, the pra-vesicular abscesses of the French surgeons, are abscesses of pelvic origin.

Clinically, it is important to distinguish between an inflammatory condition, pure and simple — a cellulitis simplex — and the same condition after it has passed into the suppurative stage. The presence of pus cannot be recognized at too early a period. It is likewise necessary to distinguish between a pelvic cellulitis, and general or localized peritonitis; also between this and cystitis, proctitis, and prostatitis. Rheumatism and neuralgia, too, must be borne in mind.

Surgically, it is necessary to differentiate between abdominal abscesses, ilio-pelvic abscesses, pelvic abscesses, abscesses of the ischio-rectal fossa, and perineal abscesses. Exceptional possibilities must be carefully considered, such as hernia strangulated in the pelvic foramina, passage or impaction of renal calculi,

acute inflammation of the psoas muscle, typhlitis and and perityphlitis, and lastly, scrofulous, malignant, tubercular, and syphilitic disease of the pelvic glands.

The treatment, externally, resolves itself into treatment of the cellulitis before suppuration, and treatment after suppuration has been established. In the former case, rest, morphia, quinine in free doses, local refrigeration, and, possibly, local depletion by leeches to the perineum. In employing cold in this, or any other inflammatory condition about the rectum, nothing equals in efficacy and comfort, in Dr. Burchard's experience, the continuous douche of cold water, which passes up, and immediately returns through a double-flow blind tube. The great mistake that is often made by the inexperienced in the application of either this or the ice-coil, is in applying it too cold at first. The water, at first, should be warm, and then gradually cooled until ice-water can be used, and with astonishing relief. During acute inflammation, frequent rectal explorations should be desisted from, as calculated to do more harm than good. After suppuration may reasonably be suspected, a careful examination under anæsthesia should be made, in order that the abscess may be evacuated into the rectum at the earliest moment. If evidence of internal suppuration persist, and there is reason to believe the pus to be burrowing upward, an exploratory abdominal incision is obviously demanded. If this can be made without opening the cavity of the peritoneum, it certainly should be done. The object to be attained, however, is the evacuation of the pus; but we cannot always be successful in this, as adhesions will form impassable barriers at times. The principle, though, is surgical and conservative.

Recent Literature.

A Chart of Physical Signs of Diseases of the Heart and Respiratory Organs, including Thoracic Aneurism. By R. C. M. Page, M.D. Revised edition. New York: J. H. Vail & Co., 21 Astor Place. 1886.

The first edition of this chart was noticed in the Journal of February 11, 1886, and the work was then condemned on the ground that it was calculated seriously to mislead students by dwelling on the diagnostic value of cardiac murmurs, while silence was maintained as to the light which cardiac enlargement throws upon the nature and significance of murmurs.

We are much pleased to see that in the revised edition this defect has been met and overcome. There are some minor points of detail, in regard to which we cannot quite agree with the author; but, in its present form, the chart is likely to prove very useful, summarizing briefly and clearly the important facts and principles of physical diagnosis, as applied to the common affections of the thoracic organs. F. C. S.

— A man known as "the Sussex giant" died suddenly at Appledore, Eng., recently. Although only thirty-six years of age, he weighed over 546 pounds. He was on an exhibition tour, and in one of the intervals between the performances he fell asleep in his chair, and when an attempt was made to arouse him he was found to be dead. The cause of death was heart disease.

Medical and Surgical Journal.

THURSDAY, MAY 27, 1886.

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MEDICAL HEROISM.

The recent history of the rebel cruiser Alabama, in the Century War Series, contains a tribute to the assistant surgeon of that scourge of the seas that is very attractive. The son of an English clergyman, who had joined the ship, we can but believe, rather to exercise his profession than from sympathy with the cause, his devotion to the wounded in the famous fight between the Alabama and the Kearsage, showed him more mindful of the duties of his profession than of his personal safety.

In each of three separate articles, one of them by the surgeon of the Kearsarge, his conduct is highly commended.

"He was unremitting in attention to the wounded during battle, and after the surrender superintended their removal to the boats, refusing to leave the ship while one remained. This duty performed, being unable to swim, he attached two empty shell boxes to his waist, as a life preserver, and jumped overboard."

In the present renaissance of war literature this is one of the very few allusions to the services of the medical corps, though it is by no means the only instance, where medical officers on both sides of the great conflict lost their lives in the line of duty. It is an especial pleasure to meet this mention of the young Englishman because it gives an opportunity to recall the memory of other men who also labored hard over the wounded in their charge, who were under fire and lost their lives in the discharge of duty. The deaths in the medical corps from casualties alone, on the Union side, were greater than in any other staff corps. Thirty-two were killed in battle or by guerrillas or partizans and nine by accident. Eighty-three were wounded in action, of whom ten died. Large as this list of fatalities would seem to be to those who share the common error that the army surgeons were not exposed to the dangers of war, the corps illustrated in their deaths the well-known truth that disease is more fatal to armies than the sword. Four died in rebel prisons, seven of yellow fever, three of cholera, and two hundred and seventy-one of other diseases most of

which were incidental to camp life or the results of exposure in the field, making a roll of honor embracing four hundred and nine names.

"My observation and experience," said Letterman, the Medical Director of the Army of the Potomac in a report to the surgeon general, "since I have been connected with this army, especially, has shown me that they (the medical officers) are almost as much exposed as officers of the line . . . and I am fully justified in saying that in no department has greater devotion or more courage been shown than by the medical officers in the battles which have been spoken of in this report."

The medical department of the volunteer army was as imperfect at the outbreak of the war as every other portion and was only gradually brought to a state of perfection. Surgeons were improperly appointed and the incompetent had to be weeded out. So little importance was attached to the position of regimental surgeon, or rather, so little was the value of an educated medical man appreciated in some quarters at the outbreak of the war, that all sorts of doctors, even advertising quacks and men who had never seen a surgical operation, were commissioned as medical officers. In spite of the remonstrance of the medical department the most incompetent men were pushed for regimental positions by regimental commanders and even governors of States. The stories of the errors of these incompetent surgeons are more commonly repeated than those of the brave performance of duty. One of the most anxious duties of the experienced surgeons in the early part of the war was the preservation from amputation of limbs unnecessarily condemned. Everybody has heard the story of the surgeon who amputated the sound leg, but few know of the surgeons who sacrificed their own lives to save their men. To read the history of the war from the reports of the medical officers is to gain a different view of affairs from that usually shown and one not calculated to foster a belief that the position of an army surgeon in the civil war, was one of ease.

At the first battle of Bull Run the Medical Director of the army under General McDowell accompanied the General in his visits to those places where the contest raged fiercest and in his report he says: "I found the medical officers, as a general rule, on the alert and many performing their duties coolly under the fire of the enemy." When the retreat commenced and it was found impossible to carry off the wounded, several surgeons volunteered to stay and did stay behind. The report of Dr. Gray, one of the surgeons who remained with the wounded at Sedley Church, sounds strangely at the present time and shows what it meant to stay behind with the wounded. "After our retreating column had passed this hospital, I went out to meet the advance of the rebels, to explain the nature of the duties on which my companions and I were engaged, and to ask permission to continue them unmolested, for shot were beginning to fly near the hospital. The officer to whom I surrendered, a lieutenant of Virginia Cavalry, was an unreasonable man and would neither permit me to return to our wounded nor promise any protection to our hospital. I was compelled to accompany his party to Manassas Junction." All the other surgeons at Sedley Church were also taken from their wounded and transferred to Manassas, and the wounded were left for some time without assistance. The status of the surgeons was not settled at that time and treatment of them was not uniform. General Beauregard, forwarded with some of them, sent prisioners to Richmond, a request for their immediate release as non-combatants.

At least two surgical officers walked back to Washington. Dr. Sternberg gave his parole not to escape for five days and was allowed to attend to his wounded. On the expiration of his parole he returned to Washington on foot. Dr. Luther Bell, on the retreat, saw a wounded officer lying by the roadside whom he placed upon his horse and made the journey himself on foot.

At Shiloh, Brigade-Surgeon Everett was instantly killed by a ball striking him in the forehead, and "other medical officers were severely injured," as stated in the report of Medical Director J. H. Brinton. Such a matter-of-fact statement is a greater proof of their exposure than even a detailed record would be.

At Antietam occurred the first death of a surgeon of the regular army, when two assistant surgeons of Massachusetts regiments also fell. The peninsular campaign, under McClellan, does not seem to have been very fatal to the medical staff, but Medical-Director Tripler credits the death of Dr. H. J. Milnor, of New York, to exhaustion consequent upon the labors incident to the change of base. He was one of the surgeons who stayed behind with the wounded.

At Chancellorsville when the left gave way the hospital of the second division of the fifth corps was exposed to the fire of the advancing enemy. Medical officers were detailed to be left behind while the operating staff went to the rear. One of the medical officers thus left was shot while in discharge of his duty; another medical officer also fell at the same battle.

Gettysburg was one of the most trying fields for the surgeons. Over 650 medical officers were reported as present for duty at that battle. Thirteen of them were wounded and one of them died on the 6th from the effect of wounds received on the 3d. The battle itself ended on the 3d, but the surgeons were engaged assiduously in attendance upon the wounded, night and day with little rest until the 6th, and in the second corps until the 7th of July. Some of them fainted from exhaustion induced by overexertion and others became ill from the same cause. Of eleven surgeons on duty at different periods with the Gettysburg hospital of the second division of the fifth corps, eight were taken ill or were absent on sick leave early after rejoining their commands.

The number of our own wounded was 14,193, and 6,802 Confederate wounded fell into our hands. The

wounded of the first of July, with the battlefield of that day into the hands of the enemy and our own surgeons stayed behind to care for them, and came under the control of the stars and stripes again on the 4th.

When the army left the field 106 medical officers were left behind and when it had reached Boonesboro' the medical department was, in the opinion of the Medical Director, fully prepared to take care of the wounded of another battle of as great magnitude as that which had just transpired at Gettysburg.

Individual instances of devotion to duty, even to death, might be easily increased, some of them quite as striking as that which has served as a text for these remarks.

Surgeon Ariel Cummings of the 42d Massachusetts, taken prisoner at Galveston, Tex., lost his life from disease which prostrated him in the midst of arduous duties rendered to his comrades stricken down by the heat of a tropical summer. Dr. James M. Newell, of Massachusetts, was drowned in the endeavor to rescue some women and children from a transport ship, laden with convalescents, under his charge; and the further one looks the more such instances he finds.

In this short article no reference has been made to the surgeons of our own navy nor to the medical men of the Confederate forces; not because there was nothing to say, or any disposition to avoid saying it, but from lack of space simply.

It would be a labor of love to follow yet more closely the medical corps of the army and to add that of the navy, as the two played their part in all the grand movements of the war; but space would fail to record even the mere outline of their services. The war is often spoken of as a grand school for the surgeon and undoubtedly its opportunities for improvement were the means of educating many men of poor original education and of little experience, and the combined experience of its medical officers as shown in that grand Medical and Surgical History of the War perpetuates its lessons and extends them beyond the time and country of the participators.

As one result of our civil war the American people learned that in order to follow successfully the business of a soldier, preliminary education was necessary. Much was also accomplished in the enlightenment of the public as to the worth of medical education and the value of a properly educated medical man.

A STATE BOARD OF HEALTH AGAIN IN MASSACHUSETTS.

SEVENTEEN years ago (June 21, 1869), the Massachusetts Legislature passed an act establishing a State Board of Health, which was the first called into existence in the United States.

The members, seven in number, were appointed by the Executive July 31st of the same year; and, from the completion of the organization of the Board by the choice of Dr. H. I. Bowditch as Chairman, and Dr. George Derby as Secretary, at a meeting held September 22d, 1869, until June 30th, 1879— a period of ten years — the labors of the Board in behalf of preventive medicine, and the contents of the annual reports which it issued, amply justified its creation, and at the same time illustrated an example which other States were not slow to follow.

In 1879, for reasons which shall be nameless, the Board of Health as a distinct organization was abolished, and a new State Board of Health, Lunacy and Charity was created, which soon knew none of the old names — or for but a brief period — except that of Dr. Robert T. Davis. In regard to this body no more need now be said than that we hope we have written its long name for the last time. In March of this year, 1886, after a chequered existence of seven years, retributive justice — foreshadowed in the governor's message at the opening of the session — overtook that complex and unwieldy body, and an independent State Board of Health was again established. The act creating it differs but little in form and still less in substance from the old act.

His Excellency, Governor Robinson, on May 19th, presented seven names to his Council, which were promptly confirmed under a suspension of the rules, for appointment as members of this new Board. Among the names, a full list of which our readers will find under the head of appointments on the last page of the JOURNAL, we welcome especially those of Dr. H. P. Walcott, of Cambridge, and of Dr. F. W. Draper, of Boston. The Board, there is every reason to believe, will prove a strong one, one to which the Legislature may safely refer the many problems, directly and indirectly connected with sanitation, demanding action, and from which a judicious and intelligent enforcement of legislative acts may be expected.

As this JOURNAL has always taken an eager interest in the welfare and progress of State and Preventive Medicine in this country, and has given free expression to its dissatisfaction with the unnecessary impediments thrown in their way in Massachusetts, it heartily welcomes the return of more promising conditions.

MEDICAL NOTES.

— The fourth of M. Pasteur's wolf-bitten Russian patients has died of hydrophobia.

— The health department of Chicago has, we learn from the daily papers, brought a suit against a dry-goods firm in that city for not providing seats for their women clerks. There is considerable interest in the case, as it is the first prosecution under an ordinance passed about two years ago.

— Louis Xavier Ollier, the famous French surgeon and medical author, died recently, at the age of sixty-one. He was for many years Professor of Chemical Surgery at the Faculty of Medicine and Pharmacy at Lyons, where he began his famous studies of the bone. He contributed articles to medical periodicals, some of which have been put into book-form. Ollier was an officer of the Legion of Honor.

BOSTON.

— The Massachusetts House of Representatives recently passed a bill to permit local boards of health to grant certificates to children who had not been vaccinated, permitting attendance upon public schools. In the Senate, Senator Harlow, of Middlesex, justly stigmatized the bill as an attack on the vaccination law, and it was promptly killed.

The Committee on Drainage, to which was referred the report of the commission appointed to consider a general system of drainage, has reported in part a bill giving the general oversight and care of all inland waters to the State Board of Health. The Committee on Public Health has reported a bill to restrict the use of arsenic in the manufacture of wall-papers, textile fabrics, etc.

PHILADELPHIA.

— Dr. William H. Pancoast has been elected to the chair of General Descriptive and Surgical Anatomy and Clinical Surgery, in the Medico-Chirurgical College. Dr. John V. Shoemaker has been elected Professor of Dermatology in the same school.

— The Philadelphia County Medical Society has unwillingly furnished several items recently to the daily press, and has contributed materially towards making things lively in professional circles. Apparently the dispute is with regard to the construction to be put upon the by-laws, which say that "Nominations for Officers and Delegates shall be made at the stated meeting in October; and no member shall be put in nomination who is in arrears for the annual contribution of the current year," Art. V., Sec. 2; and also that "At the stated meeting in June, a Committee of five members shall be constituted, two of whom shall be appointed by the President and the remaining three elected by ballot, which shall be called the Nominating Committee. At the stated meeting in October this committee shall present a ticket of candidates for election to the different delegations of the Society. Nominations for the different offices shall be made directly by the members of the Society," Art. XII., Sec. 4. From the action of the Society, it appears that two constructions are put upon the above laws, one claiming that they are mandatory and that the report of the Nominating Committee, presented in October, after its formal adoption, becomes in reality the action of the Society, and the subsequent balloting in January is a matter of mere form; while the other party holds the contrary opinion, that the Society is not bound by the report of the Nominating Committee even after adopting it, but that nominations can be made up in the moment of election. It appears from the records that the practice of the Society has been to accept the nominations of the Committee and to vote them unquestioned, but some elections have been conducted in rather a loose manner, and precedent can be had for departing from the rule. At all events, the election last January was made the field-day to test the question, and the supporters of the latter view presented and voted entirely new lists of delegates to the American Medical and State Associations. When, however, these delegates presented themselves with their certificates of election, at St. Louis, they were prevented from registering as such, by a protest which had been laid before the Judicial Council, on the ground that their certificates had not been legally obtained, and that the meeting had been packed and was disorderly. The Judicial Council after ten days' deliberation referred the matter to the County Society, and refused to accept the delegates. Upon their return to Philadelphia, they called a special meeting of the Society, presented a lengthy report, which was adopted and ordered to be printed and distributed. Dr. D. Hayes Agnew offered resolutions expressing surprise at the action of the American Medical Association, reaffirming the legality of the action, and declaring that in excluding the delegates from this Society "the Judicial Council violated the plain rules of evidence and of justice." These resolutions were adopted by a large majority. The same question, in all probability, will come before the State Society, which meets at Williamsport early next month, when the delegates from the County Society will be likely to meet with the same protest as that made at St. Louis. While it is on the surface a dispute over the by-laws, it is not entirely hidden from view that there are personal animosities, school jealousies, and the International Congress muddle, which have a large share in producing the prevailing state of affairs. It is hoped that when the International Congress is a thing of the past, that the medical societies will resume their *status quo* and will endeavor to make up for lost opportunity by devoting their entire time and strength to the elevation of the profession and the advancement of science.

Correspondence.

PARIS LETTER.

PASTEUR AND HYDROPHOBIA.

PARIS, May 6th, 1886.

MR. EDITOR,— The daily inoculations of individuals bitten by dogs and wolves, are made gratuitously in all classes of patients at Pasteur's laboratory, in the old Chemical Institute, 45 Rue d'Ulm. Visitors may witness the process of the sterilization of bouillon at 9.30 A. M.; the inoculation of patients at 11 o'clock; and at 2 P. M., the inoculation of rabbits with virus from one just dead. Of the process of sterilization, I shall make no further mention than to say that it is complicated.

When I entered, scores were waiting their first, or a repetition of a previous inoculation. The rooms were crowded — French, Italians, English, Spaniards, Arabs, Portuguese, Russians, soldiers, peasants, laborers, women, children, high and low degree; it was a motley throng — a throng which repeats itself daily. In the large laboratory, into which the pressing crowd had drifted from the anterooms, a young operator re-dressed wounds on the hands, faces, or limbs of the patients, simply by laying on absorbent cotton wet in a solution of phenic acid, covering this with oiled silk, and binding with a gauze roller. Servants move about, keeping order, and searching for patients whose turn has come for inoculation.

Pasteur — a man of sixty-three, short and stout of stature; face rugged and wrinkled; pointed, iron-gray eye-brows, and thick, very short, and stiff moustache; abundant

cropped, grayish hair; a stubby, closely-cut, full, but sparse beard, partly white, partly iron-gray; eyes small, gray-brown, and half hidden behind heavy lids, the lower ones baggy; strong nose, very firm mouth, sallow skin: an expression of *bonhommie* when he addresses a child: a scowl or a flashing glance, when engaged in hastening the patients or explaining to the slow-minded; a face of great energy, will, decision, pluck; showing the effect of many a sharp fight with opposing circumstance, an unconquerable look. Pasteur, wearing a dark suit, and the inevitable skull-cap, stands at the door of his private room, his left arm hanging nearly useless (he is hemiplegic), in his right hand a card bearing names of patients to be inoculated to-day, and whom he calls, six at a time. The Russian names have an odd sound, with their unexpected "itches." The Arabs and Portuguese are called as: "The Arabs," "The Two Portuguese." His voice is strong and deep, but breaks when forced in the call for an unresponsive patient.

The patients pass him as he stands in the door-way, and he scans each one sharply. To little children, he frequently offers comfort from a huge package of *bonbons*, which lies near him upon the mantel-sheif. Especially upon their return, do they seem to regard the sweets as more attractive than the Pravaz syringe, from the effect of which they are still sobbing.

In spite of his stern look and abrupt manner, Pasteur is warm-hearted, cordial, simple, kindly, and in the interval of waiting for the inoculation of the squad just ushered in, he turns from one disappearing visitor to another, and the quick change of topic does not seem to annoy him, even though he is so intent upon his work; or he chats with the women who confine themselves to his portion of the room, a half-preoccupied look penetrating the smile which appears. It is all very stirring, very interesting, and — very French. This apartment is fourteen feet square, and crowded by visitors, all of whom are attempting the impossible feat of watching each inoculation, observable, in the over-filled space, only to a few.

Professor Grancher, a man of charming presence, Pasteur's assistant and operator (Pasteur himself not being legally allowed to inoculate human beings), sits at a table on the side of the room, opposite the door. On a third side, is Pasteur's desk, heaped with telegrams, letters, and case-books. Upon Dr. Grancher's table, stand half a score of wine-glasses filled with the virulent bouillon, each closely wrapped in sterilized paper, through which the point of the syringe is plunged. The foot of each glass bears a dated ticket, showing when the virus, or portion of spinal cord contained in the glass, was removed from the rabbit, thus indicating the degree of virulence of its contained bouillon, and also, which glass is to be used in each of the ten series of patients, some of whom are to be inoculated with spinal matter fourteen days old, some with matter thirteen, twelve, eleven days old, and so on, up to cords of five days' drying. Patients are so classed, that those first called are inoculated with the weakest matter from a cord, namely, which has dried fourteen days. As the series of patients follow each other, every new series is inoculated with a more virulent bouillon, until those patients arrive who have already received nine inoculations. This is their tenth daily, and last visit. They receive a bouillon holding nervous matter only five days removed from the rabbit, and are now considered protected. If Pasteur inoculates with a still more virulent matter, as from a cord of the fourth or third day, it is in exceptional cases — those extensively bitten. In all others, he begins with the fourteenth, and ends with the fifth. Medical journals, I observe, almost uniformly state that the inoculation terminates only with the first cord. This error doubtless was derived from Pasteur's account of his first case, the Alsatian boy, Meister. Asking an explanation of Pasteur, he said, with a frank smile: "In that boy, I continued to inoculate until I had reached the first cord, because I was afraid to stop. I feared that I should not protect him. Since that case, I have considered protection achieved by the fifth cord, excepting when wounds were very severe. In those cases, I continue to ascend to the fourth, even to the third cord."

In the *Les Connaissances Medicales* of this week, Vignal, who re-publishes his paper in the *British Medical Journal*, still propagates the error I have mentioned. I called Pasteur's attention to Vignal's statement, namely, that the last inoculation is made with the first cord. Pasteur said it was a mistake, and simply verified what I have written.

In the inoculation of a first series of patients, it is necessary to use a feeble bouillon, because a virus more intense than that absorbed from the bite, might precipitate rabies; *but*, a man or dog being once rendered refractory to rabies, the most virulent injection may be made, in any quantity whatever. The only effect, says Pasteur, appears to be a consolidation of the refractory condition.

By the adopted arrangement, the same syringe may safely be used for all the patients of one forenoon. Whereas, to begin with those requiring an intense virus, namely, those who have already been several times inoculated, would render the syringe liable to communicate a too high degree of virus to newer comers. As it is, the needle of the instrument is plunged into boiling water after each injection, and at the close of the *séance*, is taken apart; its parts are thoroughly boiled, and the plunger is newly leathered. When not in use, the syringes are kept in a hot-air chamber.

Dr. Grancher makes the injections under the skin of the abdomen, alternating from right to left of umbilicus, and *vice-versa*, and on consecutive days, to avoid accidents of irritation, although not even a pimple has ever appeared; receiving the syringe full for an adult, half-full for a child, from his assistant, who fills and cleanses it. With each new series of patients called, Pasteur also calls an earlier date, and the glass of virulent bouillon just previously in use, is exchanged for one bearing the date called, and so on through the several series. Naturally, everything is done quickly, one hour only being given daily to inoculation of patients. My growing doubt as to the probability of obtaining a word with Pasteur in this turmoil, vanished when the entire assembly suddenly departed, and I found myself alone with him and Dr. Grancher.

In reply to my remark that the drift of opinion in America seemed to be that it is necessary to wait for proofs of protection in those already inoculated, he said with great energy: "Wait? I have no objection. *I* am waiting. But consider this: in October last I began systematically to inoculate human beings. Up to this moment (April 29) we have inoculated 907 persons. How many deaths? One. One only (for the Russians cannot justly be counted) and when this one (the Pelletier child) came to me it was too late. Before I began to inoculate human beings how many of those bitten by mad dogs in France died? Sixteen per cent. Since last October only one death in 907 cases! What more can you ask? Scientific men once doubted my having discovered a means of preventing cholera in chickens and charbon in sheep. When I announced my discovery at the International Medical Congress in London, Koch said, 'Pooh!' and Chauveau simply loaded me with sceptical objections. Do they do it now? Let the fact that 500,000 sheep are inoculated every year in France for peasants who fight to save a two sous piece and yet must pay four sous per head for inoculation every spring, be the answer. The Germans are angry, especially Koch, because France has the merit of this new discovery of protection against rabies. They think because they conquered our country in '70 that they can be our masters in this field, and therefore they spread broadcast their scepticism against me. They lack generosity. They are behaving like children. Think of what I have been through. Consider what my mind suffered day and night, think of my sleepless hours when I should have been resting, from fear that I was wrong, that I was perhaps killing instead of saving my patients. Imagine the tension of my mind during those early days and weeks in which I had to wait to see what would happen to the human being upon whom I was experimenting. When a letter came to me I hardly dared open it, so much did I fear fatal reports. 'What does this letter bring me,' was my first word. I was almost ill from fear, anxiety and

suspense. What is the result? That!" and he pointed out a half-dozen large boxes. "They are packed with letters of gratitude. Out of my 907 cases only one has died. The dog which bit the Newark children was not mad — do they say in America? I fail to comprehend the position. Four children bitten. Seven thousand dollars raised to send them and their physician to me. They come and have gone home well. All this and the dog not mad. It is incomprehensible. It does not follow because the dogs bitten by this dog are not mad that the original dog was not. All people and animals bitten by rabid dogs do not have rabies. But let that pass. Is it possible that in my 907 cases *none* of those who have come to me bitten on hands, face, scalp and extremities, sadly mangled, some of them were not bitten by mad dogs? Wait if you will and as long as you will, my own answer to all doubt is: 907 cases since October — six months' experience — only one death and for that I am not responsible. I have no new ideas. Everything is going on as I reported to the Academy. New cases are coming. Old ones going away protected."

I repeat Pasteur's conversation because it reveals the extremely interesting spirit and attitude of the man. He spoke vigorously but in the spite of the ex-form of many of his allusions, he was manly and simple in their utterance and manifested no trace whatever of self laudation or pettiness. What he said to me is moreover of great value in the argumentative sense, because assertions made by Pasteur during serious personal conversation carry great weight and consequently should convince, to a greater or less degree, the sceptical, who, even though they visited Pasteur, witnessed his procedures and examined his animals, could not verify every, probably not any disputed point. In order to accomplish this, one must do all Pasteur has done, and of course begin where and as he began.

Calling his attention to a letter in No. 16 of *La Semaine Medicale*, in which a Vienna correspondent gives *von Frisch's* report, before the Medical Society of Vienna, of his experience at Pasteur's laboratory— Pasteur turns at once to the summing up in which *von Frisch* says :— "As to the value of this preventive treatment it is not yet possible to pronounce with certainty, because the duration of incubation of rabies in man is very long." Pasteur had not before seen the letter, but quickly said: "*C'est mal raisonné, ca!* Of course, its incubation in *some* human beings is very long, months, one year, two years, perhaps. The incubation in some human beings is very brief, eighteen to twenty-five days. Both these series are to be excluded. They are outside the question: they are exceptions. In the majority the duration of incubation is forty to sixty days. It is false reasoning then to say that we have not yet sufficient experience to pronounce with certainty, simply because incubation in *some* individuals — only in *some*, you understand — is very long. If, out of the 907 cases already inoculated we have lost only one, the girl who came too late, — that certainly has an important bearing in the majority in whom the period of incubation is forty to sixty days. *They*, at least, are protected. But wait till November, or until 1887: proof will then be strong enough. As to the five Russians who died. In the first place, the bite of a wolf is so virulent that so soon as one Russian knows that another has received a wolf-bite on an exposed portion of the body, he regards him as dead. Documents in my possession show that very often the death-rates in wolf-bites is 100 per cent. Again these dead Russians had absorbed an immense quantity of virus for their wounds were very extensive," and he handed me photographs which exhibited the terribly mangled condition of these unfortunates. "The duration of incubation in rabies depends not upon the virulence of the virus but upon the quantity absorbed. A long incubation indicates absorption of a small quantity of virus. Finally the Russians came to me very late and since the duration of incubation of rabies in man from the bites of mad wolves is very short (sometimes thirteen to fifteen, often only eighteen to twenty, even as low as nine days)— much shorter than in rabies produced by dog-bites, I consider the Russians out of the reckoning. Hereafter in similar cases I propose to increase frequency and quantity of inoculation.

"Do the inoculated rabbits surely have rabies? Certainly. The seizure of each systematically upon the seventh and more recently frequently upon the sixth day (which shows an increase in the intensity of my virus[1]) proves this; and the absence of every symptom of disturbance such as abscess, erysipelas, and all septic accidents, and moreover, the perfectly natural and lively condition of the rabbits on the day following the inoculation, indicates that the operation of irephining has no part in the matter.

"In regard to the condition of the patients, we formerly never accepted one without a certificate from a veterinary surgeon or a physician showing that the dog in question was mad. At present we are sometimes obliged to receive them uncertified. Humanity obliges me to do this. At the same time I insist upon having subsequently a history of the dog. But I never receive a patient who is not bitten on face, hands or an exposed portion of the body, unless the teeth of the dog have torn the clothing and thus have reached the skin. As to why the virus from the fiftieth rabbit of a series is more virulent than that from the first rabbit, I can say only that it is a fact, the result of experiment. The why I cannot give you.

"As to the effect of inoculating dogs with fresh rabbit-virus it has been done hundreds of times and in consequence the dogs acquire both the furious and paralytic form of rabies. If physiologists and others, who have never lifted a hand to verify this are not satisfied with my simple words, what is that to me? Their doubts and fancies have no value.

"Simple non-virulent bouillon has very frequently been experimentally injected under the dura mater of rabbits. This test showed that when the bouillon was impure the rabbit died from sepsis within twenty-four or thirty-six hours, the fatal attack not occurring systematically on the seventh (or sixth) day as it does when we inoculate a rabbit. On the contrary, if the bouillon be pure and sterilized, its injection within the skull of a rabbit *creates absolutely no effect*.

"If it has been shown that the rabbit virus of rabies becomes inert in passing through monkeys, why not in man? Then out of our nine hundred and odd inoculated cases *none* have been bitten by mad dogs, because many of them have long since passed the stage of incubation. Otherwise, if they have not been made refractory to rabies by my inoculation, some of them before this time would have exhibited rabic symptoms. Moreover, we do not inoculate from man to man, but, each patient receives ten inoculations of rabbit virus of regular increase in daily viric force and there the treatment ends.

"If my critics suppose that human beings may not be susceptible to rabbit virus which is fatal to lower animals, I offer the unfailing reply: then none of my 907 patients have been bitten by mad dogs, for not one of them have died."

This is the eternal answer to questions bearing upon a doubt of the preventive value of inoculation for rabies, and there is much logic in it. Pasteur immediately added: "During the year preceding the beginning of inoculation, there were (officially reported) nineteen deaths from rabies *in Paris* alone. Since I began my method (excluding the Pelletier child), there has been only *one* death from rabies in this city, and the man, an Italian model, slightly bitten on one finger, did not consider the matter of any consequence, and *was not* inoculated. In this remarkable fact, is there *no* element in my favor?"

To the doubt as to whether inoculation caused the death of the Pelletier child, the reply was: "Why, then, have none of my hundreds of other patients died?" And further: "To the question as to whether it has been proved that

[1] This recent increase in the power of his virus Pasteur explains by supposing that its long-continued passage from rabbit to rabbit (now four years) is beginning to effect an added reinforcement and consequently a lessened duration of incubation in newly inoculated rabbits. He therefore hopes in time to find that the virus will cause rabies in a rabbit in five days. Pasteur also said with emphasis that he had *never* inoculated a rabbit which later failed to be seized with rabies.

persons rendered refractory to rabies are really refractory when the virus is introduced into the system in the ordinary way. I can merely answer, that since none of my protected patients have been newly bitten, there has been no opportunity of judging. When I inoculate monkeys with the intense rabbit virus, they go mad, being seized with either the furious or paralytic form.

"Dogs *are* protected by inoculation. This has been proved by allowing inoculated dogs to be bitten by rabid dogs, and not one of those thus bitten has ever shown madness. As to the duration of this protection, sufficient time has not elapsed to enable me to judge, and moreover, I re-inoculate every twelve months. The question requires time, and I am feeling my way. By increasing the length of the intervals between re-inoculations, I can gradually appreciate how long one inoculation will protect. Inoculation for small-pox is said to protect an individual seven years. Perhaps we may attain that duration in dogs. But it must not be forgotten that inoculation does not always protect against small-pox. I knew a lady who was inoculated effectually three times. Within three months, she died of confluent small-pox.

"Our inoculated rabbits never exhibit any febrile symptoms on days following the operation of trephining. They appear well, and eat naturally until the system begins to be overpowered by the poison, up to the fifth or sixth day, and on the seventh (or sixth), they are regularly seized. Rabies, in rabbits, takes the paralytic form. They rarely have furious rabies. Whereas, dogs inoculated with rabbit virus may, and do, acquire furious hydrophobia, though more frequently, it is the paralytic form."

(*To be continued.*)

REPORTED MORTALITY FOR THE WEEK ENDING MAY 15, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Diph. and Croup.	Scarlet Fever.
New York	1,439,039	623	201	14.72	18.88	2.08	5.76	1.28
Philadelphia	971,363	323	105	14.26	—	1.24	6.82	1.55
Brooklyn	690,000	267	106	13.60	14.28	1.02	5.44	4.08
Chicago	630,000	—	—	—	—	—	—	—
Boston	390,406	163	44	8.54	21.35	1.83	3.05	3.05
St. Louis	417,220	—	—	—	—	—	—	—
Baltimore	400,000	145	55	9.66	17.25	1.35	4.83	1.38
Cincinnati	325,000	92	30	6.54	16.44	5.45	7.63	2.18
New Orleans	238,000	96	31	4.16	20.80	—	—	—
Buffalo	202,818	—	—	—	—	—	—	—
District of Columbia	205,000	85	26	8.26	18.84	1.18	2.36	1.18
Pittsburgh	190,000	67	30	22.68	8.88	—	5.92	8.88
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	118,070	39	10	12.80	23.04	2.56	7.68	—
New Haven	78,000	—	—	—	—	—	—	—
Nashville	60,000	18	4	5.55	22.22	—	—	—
Charleston	60,145	14	22	71.42	7.14	35.70	—	—
Worcester	68,383	17	11	11.76	29.40	—	—	—
Lowell	64,051	30	11	16.66	6.66	—	3.33	—
Cambridge	59,660	18	5	12.52	49.08	—	5.26	—
Fall River	56,863	11	3	9.09	36.36	9.09	—	—
Lynn	45,861	9	3	—	22.22	—	—	—
Lawrence	38,825	9	3	—	22.22	—	—	—
Springfield	37,577	10	3	—	—	—	—	—
New Bedford	33,393	15	2	20.00	20.00	13.33	—	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	—	—	—	—	—	—	—
Holyoke	27,894	11	5	27.27	9.09	9.09	9.09	—
Chelsea	25,709	7	2	14.28	—	—	14.28	—
Taunton	23,674	5	2	40.00	40.00	—	—	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	3	0	—	—	—	—	—
Brockton	20,783	4	1	—	25.00	—	—	—
Newton	19,759	3	2	—	—	—	—	—
Malden	16,407	5	0	—	40.00	—	—	—
Fitchburg	15,375	7	2	52.14	53.14	—	14.28	—
Waltham	14,699	7	1	14.28	14.28	—	14.28	—
Newburyport	13,716	4	1	—	—	—	—	—
Northampton	12,896	3	1	33.33	—	—	—	—
Massachusetts Towns	—	51	14	1.96	7.84	—	1.96	—

Deaths reported 2,061: under five years of age 736: principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 277, diphtheria and croup 103, diarrhœal diseases 41, scarlet fever 39, whooping-cough 23, erysipelas 18, malarial fever 18, typhoid fever 15, cerebro-spinal meningitis 10, puerperal fever six, measles two, small-pox (New York) two. From whooping-cough, New York nine, Brooklyn four, Philadelphia, and Charleston three each, Pittsburgh two, Baltimore and Taunton one each. From erysipelas, New York seven, Philadelphia four, Brooklyn and Lowell two each, Pittsburgh, Cambridge and New Bedford one each. From malarial fever, New York eight, New Orleans four, Brooklyn three, Baltimore two, Charleston one. From typhoid fever, Philadelphia six, New York two, Boston, District of Columbia, Pittsburgh, Providence, Nashville, Charleston and Lowell one each. From cerebro-spinal meningitis, New York five, Philadelphia two, Worcester, Lowell and Northampton one each. From puerperal fever, District of Columbia and Pittsburgh two each. New York and Taunton one each. From measles, New York and Worcester one each.

In 109 cities and towns of Massachusetts, with a population of 1,292,823 (population of the State 1,941,465), the total death-rate for the week was 15.76 against 17.14 and 15.47 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending May 1st the death-rate was 20.2. Deaths reported 3,518: infants under one year of age 893; acute diseases of the respiratory organs (London) 296; whooping-cough 138, measles 104, diarrhœa 39, scarlet fever 29, diphtheria 28, fever 23, small-pox (Bristol two, Liverpool one) three.

The death-rates ranged from 16.1 in Brighton to 29.2 in Manchester; Birmingham 22.7; Blackburn 26.8; Bradford 17.1; Hull 16.3; Leeds 19.2; Leicester 19.1; Liverpool 20.0; London 18.5; Newcastle-on-Tyne 25.9; Nottingham 19.7; Sheffield 19.6; Sunderland 17.6.

In Edinburgh 22.5; Glasgow 25.5; Dublin 24.4.

For the week ending May 1st, in the Swiss towns, there were 48 deaths from lung diseases, consumption 47, whooping-cough 18, measles 12, diarrhœal diseases 10, diphtheria and croup seven, typhoid fever four, small-pox two, erysipelas one.

The death-rates were: at Zurich 19.1; Geneva 28.3; Basle 25.9; Berne 26.7.

The meteorological record for week ending May 15, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps: —

Week ending Saturday, May 15, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday,... 9	29.778	58.5	68.6	47.0	70.0	39.0	55.0	54.7	N.	N.	N.W.	16	23	10	F.	C.	C.	—	—
Monday,... 10	30.053	53.9	60.2	49.7	59.0	71.0	96.0	75.3	S.E.	S.E.	S.E.	4	12	8	C.	O.	R.	—	—
Tuesday,..11	30.056	45.4	51.1	43.7	84.0	100.0	93.0	92.3	E.	E.	N.E.	22	23	12	O.	R.	O.	—	—
Wednes., 12	30.010	45.3	49.4	43.3	91.0	79.0	100.0	92.0	N.E.	S.E.	S.E.	10	9	6	O.	O.	G.	—	—
Thursday, 13	29.976	44.0	47.0	39.5	100.0	96.0	94.0	96.7	E.	E.	E.	4	17	12	G.	O.	O.	—	—
Friday, ...14	30.056	47.5	52.3	38.5	84.0	87.0	97.0	89.3	N.E.	E.	S.E.	9	14	8	F.	C.	O.	—	—
Saturday, .15	29.954	48.6	55.5	42.7	95.0	85.0	100.0	93.3	S.E.	S.E.	S.	12	16	12	O.	C.	R.	.17	0.32
Mean, the Week.	29.982	49.0	54.7	43.5				84.8											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MAY 15, 1886, TO MAY 21, 1886.

ELBREY, F. W., captain and assistant surgeon. Sick leave of absence still further extended one year on surgeon's certificate of disability. S. O. 115, A. G. O., May 17, 1886.

CARTER, WM. F., captain and assistant surgeon. Granted leave of absence for one month, to take effect about June 1st, with permission to apply for an extension of one month. S. O. 55, Department of Texas, May 11, 1886.

BANISTER, JOHN M., captain and assistant surgeon. Assigned to duty as Post Surgeon, Fort Canby, W. T. S. O. 75, Department of Colorado, May 8, 1886.

EWING, C. B., first lieutenant and assistant surgeon. Relieved from duty at Fort Leavenworth, Kan., and ordered for duty as Post Surgeon, Fort Supply, Ind. T. S. O. 48, Department of Missouri, May 13, 1886.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE TWO WEEKS ENDING MAY 22, 1886.

LAW, H. L., surgeon. Ordered to the United States Revenue Steamship "Wabash."

HAWKE, J. A., surgeon. Detached from United States Revenue Steamship "Wabash," and await orders to sea.

OGDEN, F. N., assistant surgeon. Detached from United States Steamship "New Hampshire" and wait orders.

BAKER, J. W., assistant surgeon. Ordered for examination, preliminary to promotion.

WOODRUFF, CHARLES E., commissioned assistant surgeon in the navy, May 17.

HENRY, CHARLES P., commissioned assistant surgeon in the navy, May 18.

BRANSFORD, J. F., surgeon. Invalided home from Pacific Station.

WINSLOW, GEO. F., surgeon. Ordered June 1st, proximo, to the United States Steamship "Atlanta."

HEFFINGER, A. C., passed assistant surgeon. Detached from the Navy Yard, Portsmouth, N. H., and ordered to United States Steamship "Atlanta," June 1st.

APPOINTMENTS.

The following gentlemen have been appointed members of the new Massachusetts Board of Health: Henry P. Walcott, M.D., of Cambridge, President American Public Health Association, seven years; Elijah U. Jones, M.D., of Taunton, Homœopathist and Chairman of Taunton Board of Health, six years; Julius H. Appleton, of Springfield, manufacturer, five years; Thornton K. Lathrop, of Beverly, lawyer, four years; Frank W. Draper, M.D., of Boston, Medical Examiner, etc., three years; Hiram F. Mills, of Lawrence, civil engineer, two years; James White, of Boston, retired merchant, formerly member of Legislature, one year.

RESIGNATION.

Dr. R. T. Edes has resigned the Jackson Professorship of Clinical Medicine in the Harvard Medical School.

CIRCULAR. — PREVENTION OF THE INTRODUCTION OF CONTAGIOUS DISEASES.

TREASURY DEPARTMENT,
OFFICE OF THE SECRETARY,
WASHINGTON, D.C., APRIL 29, 1886.

In order to assist local authorities in the maintenance of quarantine against the introduction of infectious diseases, as provided in Section 4792, Revised Statutes, the act of April 29, 1878, and appropriation acts authorizing the President to maintain quarantine at points of danger, the President has determined to establish, by means of the vessels of the Revenue Marine, a national patrol of the coast of the United States, so far as it may be practicable under existing law and consistent with the performance of the other duties confided to that service.

You are accordingly directed to cruise, actively, with the Revenue-Steamer —— under your command, upon the outer lines of your cruising-grounds, and to exercise especial vigilance in speaking all vessels arriving from foreign ports, or from southern ports of the United States, directing your inquiries, first, as to the port from which the vessel sailed, and, secondly, as to the health of those on board at the time of departure, during passage, and at the time of hailing; and should the information gained indicate a condition of contagion or infection in the vessel or crew, or that the vessel has left a port at which contagious of infectious diseases were prevailing, her master will be directed to proceed for examination to the outer quarantine station provided for her port of destination.

The following regulations will be observed relative to the inspection of vessels:

If a vessel be found with sickness on board, or in a foul condition, she will be directed to proceed to the quarantine station hereinbefore indicated, and the revenue-marine officer will immediately notify the proper quarantine officer. In such case no person will be permitted to board the vessel until the medical officers in charge of the quarantine shall have given the usual permit.

Should the pilot or master of a vessel, when hailed, report cases of recent or present sickness on board, the revenue officer will not board, but will send her immediately to quarantine.

Quarantine officers will be recognized as follows, viz.:

Medical officers or acting assistant surgeons of the Marine-Hospital Service in charge of Gulf, South Atlantic, Cape Charles, or Delaware Breakwater quarantine, or any officer of said Service on duty at any port on the interior rivers, the Great Lakes, or Pacific coast, and all quarantine officers acting under proper State or local authority.

Special regulations to aid local quarantine authorities will be promulgated hereafter should occasion require.

C. S. FAIRCHILD, *Acting Secretary.*

BOOKS AND PAMPHLETS RECEIVED.

The Report of the Massachusetts Drainage Commission. By Geo. E. Waring, Jr., M. Inst. C. E. (Reprint from American Architect, March 20 and 27, 1886., Newport, R. I.)

The Disposal of Sewage and the Protection of Streams used as Sources of Water-Supply. By Geo. E. Waring, Jr., Newport, R. I. (Extracted from the Transactions of the College of Physicians of Philadelphia, January 6, 1886.)

Lectures on Dietetics and Dyspepsia, delivered at the Owens College School of Medicine in February and March, 1885, by Sir Wm. Roberts, M.D., F.R.S., F.R.C.P., London. London: Smith, Elder & Co. 1886.

Original Articles.

SEVEN CASES OF CONGENITAL AND ONE OF TRAUMATIC STENOSIS OR ATRESIA OF THE FEMALE GENITAL CANAL.[1]

BY JAMES R. CHADWICK, M.D., BOSTON.

BEFORE entering upon the relation of my cases, I would briefly remind you that along the outer border of each Wolffian body appears, between the fifth and sixth weeks of embryonic life in the female, a band, at first solid, but later hollow, which is known as the duct of Müller. This duct descends on each side to open into the cloaca, in which likewise terminate the rectum posteriorly and the bladder anteriorly. The two ducts of Müller, as they descend, are opposed to each other longitudinally like a double-barreled gun; the contiguous walls are absorbed so that a single canal results, from which are later differentiated the vagina and uterus. The upper segments of the original ducts become ultimately the Fallopian tubes. The cloaca is subsequently divided by two septa, so that it consists of three distinct cavities corresponding to the bladder, vagina and rectum. Meanwhile the external genital organs have been developing independently with depressions corresponding to the divisions of the cloaca within. The septa intervening between the external depressions and the internal cloaca are absorbed and the bladder, vagina and rectum thus acquire their external openings. A premature arrest of this absorptive process is manifest in two of the most common forms of imperforation, atresia ani, and an imperforate hymen.

In fixing our attention upon the genital tract exclusively, we at once perceive that an arrest of the developmental process may show itself in two markedly different ways: (*a*) by a failure of absorption in the contiguous walls of the two Müller's ducts so that a septum persists in adult life throughout a greater or less extent of the utero-vaginal canal; (*b*) by an arrest of growth in the ducts which may affect the ultimate size of the entire genital canal or be confined to one segment where it may be manifested by a more or less complete stenosis. As I reported five cases of duplicity of the genital tract some years ago, I shall confine myself to a presentation of cases illustrating some of the varieties of stenosis, and atresia.

My first and second cases may be regarded as of imperforate hymen, although in the first there was a minute opening through which the menstrual blood could slowly trickle; such cases of course rarely come under observation until after marriage and then only when the hymen is unnaturally resistent. In the second case the hymen was absolutely imperforate and gave rise to the familiar retention of the menstrual blood; it is remarkable for the enormous amount (seven quarts) of the retained blood, which I have not found equalled in the literature of the subject. Dr. Emmet says that the average amount of accumulation is six ounces.

ALMOST IMPERFORATE HYMEN.

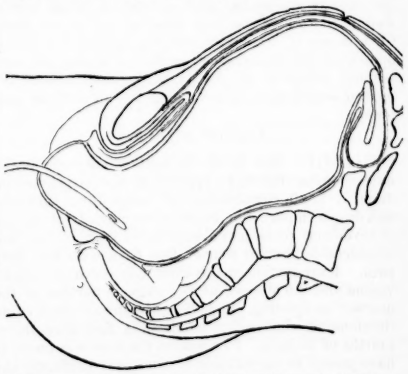
CASE I. Mrs. A. D., aged twenty-four years, who had been seven months married, applied to me on December 8, 1879, because her husband had been unable to effect coitus. She reported that the catamenia began at the age of seventeen years, after the hymen had been incised to allow the escape of the menstrual flow which had been retained for three months; from that time the flow had recurred regularly every month without pain.

On examination, no opening or cicatrix could be found in the hymen. She returned in accordance with directions, on December 20th, when menstruation had been established; the blood was then seen to be trickling from a minute perforation in the centre of the hymen which was readily dilated by forceps. On December 30th, she reported that her husband was still unable to effect an entrance, the attempt having rendered her extremely sore. Without examination she was admitted to my private hospital where she was to have had the hymen excised. Upon investigation, an irregular venereal ulcer was discovered at the fourchette. In consequence of this complication, lateral incisions and dilation of the hymen was performed and the use of iodoform ointment prescribed. On January 3d, the ulcer was beginning to heal but the surfaces of the incision were extensively ulcerated. There was a swollen gland in the right groin, which, despite the use of tincture of iodine, suppurated and had to be opened two weeks later. The lesions all healed soon after and coitus became free and frequent. No secondary symptoms developed. She gave birth to a child for the first time in 1885.

IMPERFORATE HYMEN. RETENTION OF MENSTRUAL FLOW.

CASE II. Miss G. B., aged sixteen years, came to my private hospital on May 24, 1881, from St. Andrews, N. B., with an enlargement of the abdomen.

She had been suffering from pain in the abdomen for two years; for nearly a year the abdomen had been increasing in size and there had been a marked access of pain for three days every month. There was a fluctuating tumor rising from the pelvis to the umbilicus simulating the pregnant uterus at the fifth or sixth month. On exposing the vulva a tumor as large as a hen's egg was seen protruding from between



CASE II. Showing the vagina distended with menstrual fluid.

the labia readily recognizable as an imperforate, greatly distended, and hypertrophied hymen. The diagnosis of retained menstrual fluid was unequivocal.

On the following day she was etherized, a large-size,

[1] Read at the Annual Meeting of the Suffolk District Medical Society, April 24th, 1886.

trocar thrust through the hymen, and immediately withdrawn, while a gelatinous chocolate-colored fluid was oozing through the opening thus made; an elastic catheter, of slightly larger calibre, lengthened by rubber tubing having a snap-catch to close it, was pushed through whereby the fluid was slowly squeezed out of the cavity; the end of the tube was kept beneath the surface of the escaping fluid in the vessel, by which means the entrance of air was completely prevented. *Seven quarts* of fluid were thus slowly forced out. The cavity was then thoroughly filled and emptied several times with a solution of permanganate of potash. Finally the cavity was distended with the disinfectant solution; so much allowed to escape as the natural contractility of its walls and the tension of the abdomen expelled; the tube clamped and the catheter left in place. Every day for a week the cavity was washed out until the discharge became a healthy pus and the catheter began to become loose. It was then withdrawn under ether and the hymen freely incised. Examination then disclosed an enormously capacious vagina with walls that felt as thick and almost as dense as a cowhide. The uterus could be felt of normal size and shape; it had not apparently been disturbed by the fluid. There was no pain or fever following the operation, though the temperature and pulse were slightly above normal for the first few days. Menstruation took place naturally ten days after the final operation. She returned to her home on June 13th, and has since, I learn, regained perfect health.

The evacuation of the accumulated blood is the prime indication in the way of treatment in this class of cases. This would seem to be a simple matter, but its practice has been attended with so great mortality that many methods have been devised to avoid the resulting septic infection. The method most in vogue until recently, has been to allow the retained fluid to trickle slowly through a canula passed through the hymen and secured in place. The mortality was very great. Emmet improved upon this by making a free incision through the hymen and washing out the cavity with warm water. His four cases were cured, but the same treatment has proved fatal in other hands. Familiarity with these facts impelled me to cast about for a means of absolutely insuring against any development of septic organisms in the cavity and the consequent infection of the system. The method described would seem to have perfectly fulfiled its purpose.

VAGINAL STENOSIS.

CASE III. Mrs. S. M. L., aged twenty-one years, nine months, married; applied at my dispensary on June 7, 1880, complaining of indigestion, backache and dyspareunia. She began to menstruate at the age of seventeen years, had always been regular, had had considerable flow for four or five days with but little pain. Examination at this time only revealed a short vagina and the absence of any vaginal portion of the uterus: an opening, supposed to be the external os, in the dome of the vagina admitted a fine wire, three-fourths of an inch. Per rectum the wire was found to have passed to the left side of what was evidently the neck of the womb, which organ lay in retro-sinistro-version.

On July 1st she entered my private hospital, when I opened a free passage from the neck of the vagina into the upper occluded segment by cutting and tearing the septum transversely. Not having foreseen the need of a vaginal plug I was unprovided, but improvised a very efficient substitute by paring a potato and cutting it down to the required size and shape. By this means the vagina was kept evenly distended for several days until a glass plug was procured. This she wore for two weeks, and was then discharged with the torn surfaces healed without notable constriction by the cicatrix. She visited my dispensary a few times subsequently with symptoms referable to the displacement of the womb. The organ could not, however, be raised from retro-sinistro-version, which fact with other considerations, led me to suspect that I had a case of uterus unicornis sinistra. She was then lost sight of.

CASE III. Showing the Stenosis of the vagina before operation.

NORMAL VAGINA ENDING IN BLIND POUCH.

CASE IV. On March 6, 1883, I was called to see a woman in consultation with Dr. W. H. Wescott, of Field's Corner. She was thirty-seven years of age, but had never menstruated, though she had had pelvic pains and headache every month with the utmost regularity. She had been married twelve years and the husband had made no complaint of his wife's inability to fulfil her marital duties. The external genitals were normal; the vagina was of normal calibre and length but terminated in a blind pouch, beyond which could be felt an irregular-shaped body, nearly as large as a fist, with a projection toward the vagina simulating the cervix uteri. She sought relief from the regularly recurring pains; as these were not severe and she was otherwise in perfect health, and thirty-seven years of age; as there was manifestly no retention of menstrual blood, I advised against operative interference, owing to the possible danger of opening the peritoneal cavity and the small chance of relieving her pains which were probably of ovarian not uterine origin. My advice was followed, and she has since been in her usual health.

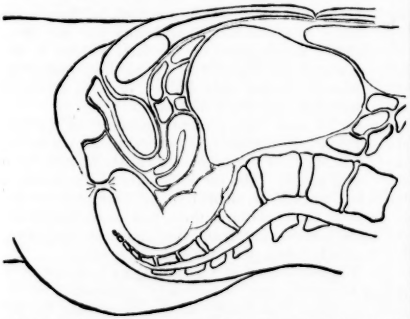
VAGINA A MINUTE CANAL. UTERUS NORMAL. PERMANENT ESTABLISHMENT OF VAGINA. TAPPING OF ABDOMINAL ABSCESS FROM ARTIFICIAL VAGINA WITH ACCIDENTAL PUNCTURE OF A DILATED STOMACH. GASTRO-VAGINAL FISTULA. CURE.

CASE V. Mrs. L. L. began to menstruate at the age of twelve years, and continued to do so with regularity until the age of fourteen, when she had an attack of inflammation of the bowels which confined

her to the bed for the greater part of seven months. I was summoned toward the end of that period in consultation and confirmed the diagnosis of the attendant, Dr. W. A. Dunn. At this time we discovered that the vagina terminated three-fourths of an inch behind the hymen, and gave a special caution to the mother against allowing her daughter to entertain any thought of marriage until the anomalous condition of the vagina was further elucidated. The patient's health was fully restored and she passed from observation until her marriage, two years later, at the age of sixteen years and eight months. Two months later her catamenia ceased and she gradually lost strength and color; her appetite degenerating into an insatiable craving for pickles, jellies, and acids of all kinds. She was successively examined by Drs. J. G. Blake, W. A. Dunn, D. H. Storer, and R. D. Joyce, all of whom recognized the genital abnormality and the fact that she was not pregnant.

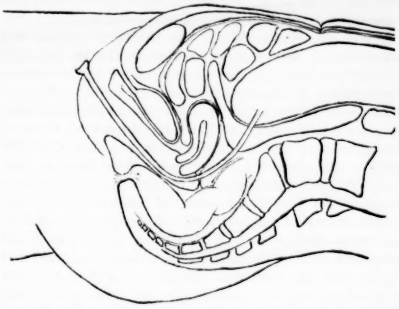
On Dec. 1, 1880, ten months later, I was summoned at the instance of Dr. W. A. Dunn, and found her excessively pale, with an elevated pulse and temperature, and a soft tumor extending from half way between the umbilicus and pubes nearly to the ribs on the right side. She was having several evacuations from the bowels daily of two or three quarts of pus mixed with liquid fæces. I learned that her parents had taken her home from her husband a month before because of ill-treatment, owing to exasperation on his part because he was unable to effect coitus. I declined to treat her unless she would enter my private hospital, which she did on December 6th.

On December 7th, with the assistance of Dr. J. W. Farlow and J. W. Elliot, I operated with the patient under ether. The vagina was found to be an apparently blind pouch just deep enough to hold the ball of the thumb.



Case V. Showing the vulvar pouch, the minute vaginal canal, the abdominal abscess and the lower end of the stomach, before operation.

As menstruation was known to have occurred regularly from the age of twelve to that of fourteen years and as uterus of normal size could be felt by rectro abdominal palpation, further minute search was instituted for some communication between the vagina and uterus, which resulted in the discovery of a minute opening in the vagina through which a wire could be made to pass three and one-fourth inches toward the uterus. This tract was gradually dilated to the size of a quill and seemed to be lined with an extremely thin mucous membrane. With forceps the canal was



Case V. Showing the artificial vagina, the collapsed abscess and tube in the stomach.

ruptured into the cellular tissue where persistent dissection with the fingers finally opened up a canal, over an inch in diameter to, and even round the cervix uteri. The os uteri was normal in appearance; the sound passed two and a half inches into the uterine cavity. A glass plug was inserted and secured permanently in place. This was worn for several weeks until the canal in the cellular tissue was completely lined with mucous membrane which shot out round the plug from the strip of membrane left on the anterior and posterior walls of the dissected canal by rupture of the original duct. The artificial vagina thus successfully established was of ordinary calibre until it neared the cervix, when it contracted somewhat to end at the cervix uteri continuous with the cervical canal. After the fifth week the plug was removed but passed twice a day to prevent contraction, until the patient returned home to her husband on March 5th, 1881. The husband expressed himself subsequently as perfectly satisfied with the result of my workmanship.

During the month of January, while the result of this treatment was inconclusive, the husband instituted a suit for divorce on the ground that his wife was not so developed as to qualify her to fulfil the functions of a wife. In conferring with her lawyer, who proposed to contest the suit, I had to admit that the husband's allegation was true up to the time of her leaving his bed, but that I expected ultimately to provide her with the organs lacking to enable her to perform her share of the marital act. This circumstance would have raised a new point in jurisprudence, but unfortunately the suit was withdrawn by the husband. Another interesting legal point would have arisen from the fact that her husband was the half brother of her mother, a relationship which is not provided for by the statutes which specify that a marriage with an uncle is null and void.

I have, in the above recital of facts, somewhat anticipated the course of events in order to present the medical history of the case in its most comprehensible form. The most remarkable features remains to be told. It must be remembered that when the patient entered my hospital she had a large abscess extending from half way between the pubes and umbilicus nearly to the ribs on the right side of the abdomen and discharging constantly into the intestinal canal high up.

During the months of December and January, the patient was having several enormous evacuations from

the bowels daily, of pus, serum, and liquid fæces, and consuming incredible amounts of solid and liquid nourishment and beer. When the artificial vagina was completed, I turned my attention to the abscess, and on January 22d, plunged an aspirator into the abscess through the abdominal wall, and evacuated much pus; I did not venture to put in a permanent drainage-tube, because I half suspected that I had transfixed a coil of intestine lying between the abscess and the abdominal wall. The abscess speedily re-filled, so that, on January 27th, I introduced a trocar into the abscess, through the top of my artificial vagina behind the uterus, though I was doubtful of the presence of fluctuation at that point. Withdrawing the trocar, I left its canula *in situ*, to maintain permanent drainage, and enable me to wash out the cavity with a solution of permanganate of potash; this acted efficiently, and the opening into the intestines closed, as was made evident by the disappearance of pus from the stools. The stiff silver canula incommoded her, however, and, after a week, slipped out; the abscess speedily became distended, so that on February 5th, she was again etherized, and the trocar thrust into the abscess again, behind the uterus. The canula was withdrawn with the trocar, and many vain attempts made to insert an elastic catheter through the opening thus made, through which much pus leaked. In desperation at my failures to pass the elastic catheter, I again seized the trocar, pressed down, with my hand on the abdomen, what felt like the half-evacuated abscess, plunged in the trocar, withdrew it, leaving its canula, plugged the latter with a cork, and secured it with a perineal strap.

The next day, in the presence of Dr. Farlow, I drew out the cork, and was startled by the strange appearance of the fluid which escaped. It was a thin, watery fluid, full of black specks, entirely free from pus, but its odor was its most striking quality, being unmistakably that of gastric juice. Dr. Farlow found, under the microscope, that the black specks were meat-fibre, and pronounced the fluid to be the contents of the stomach. Here was a startling result. I had manifestly plunged the trocar through both walls of the collapsed abscess into a distended stomach, thus establishing, probably for the first time in the history of medicine, a *gastro-vaginal fistula*. The canula was at once withdrawn. For several days after, the varying contents of the stomach were recognized, mixed with the pus that escaped from the vagina, with the odor characteristic of gastric juice. Three days after, these abnormal ingredients had disappeared.

February 13th. A silver male catheter was inserted into the cavity of the abscess, through the still pervious opening into the vagina, and an attempt made to promote its healing, by moderate, forcible distension of the cavity with a solution of permanganate of potash. In fifteen minutes, the patient had a sudden, intense, gastric colic, followed, two hours later, by the evacuation from the bowels of many large blood-clots, amounting to two quarts (?), by the estimate of a reliable nurse. Tympanites set in for a few hours, and gastric juice again imparted its fragrance to the pus that escaped through the catheter during the subsequent six days. Her whole left leg now swelled to double its size, without phlebitis, or other assignable cause, and never fully subsided afterwards. The examination of the urine at this time, and previously, showed a perfectly healthy condition of the kidneys. During these three months, the pulse had ranged persistently between 100 and 120, but the temperature had been normal; at no time was there any febrile reaction.

On March 3d, only pus came from the tube, and on March 5th she went home, wearing the tube, but otherwise in good condition, being able to walk about freely without pain.

Three days later, she let the tube slip out, which was followed by slight feverishness, but no subsequent appearance of pus. On March 10th, general anasarca suddenly set in, and the urine was found to contain albumen, pus, and numerous hyaline and granular casts. She lingered through the summer in fair health, fulfiling the functions of a wife to her husband's perfect satisfaction, and died of Bright's disease in October. Neither persuasion nor bribe could induce the husband to permit an autopsy.

These three cases manifest deformities confined to the vagina, with the possibility that in Case III, the uterus was one-horned. In Case IV, the condition of the uterus could not be made out, owing to odd, inflammatory deposits around it. Case V presents the rarest form of stenosis, three-quarters of the vagina being represented by a very slender tube, dilated slightly at the end, inserted into the cervix uteri.

Kussmaul [2] states that "the Heidelberg Anatomical Museum contains a preparation of a congenital atresia of the vagina, in which that organ consists of a fibrous band one and a half inches long and three lines thick, with only a trace of canal in its upper part. The uterus, measuring three inches in length, and one and a half in breadth, nevertheless exists. The ovaries are in a state of rudimentary development."

The accidental puncture of the dilated stomach arose from my mistaking its lowest pouch, filled with fluid, which was plainly to be felt, for the partially-evacuated abscess, and pressing it down with my left hand, while with the right I pushed the trocar forward. The patient's enormous consumption of food fully explained the dilatation of the stomach, although no significance was attached to it before the accident. Whether the development of the fatal disease in the kidneys should be regarded as due to the propinquity of the abscess to the right kidney, or as a result of septic infection, can never be known.

Cases VI and VII present instances of universally arrested development, in which the vagina is entirely wanting, and the uterus indicated, if at all, by a mere solid bunch. The patulous state of the urethra, noted in Case VII, is alluded to by Emmet as not infrequent in these malformations, and undoubtedly explains the fact that has been often observed, that coitus has regularly taken place through the urethra.

Dr. Emmet [3] says that "if the vagina is absent, it is proper to open a canal at an early age, even if no retention exists, if a vestige of the uterus can be detected," basing this opinion upon a remarkable case, in which the uterus developed to normal size, after the establishment of a vagina, although no vestige of it could be found before the operation; and also upon the fact, likewise noticed by Barnes, that the health of the patients will often be established, as a result of the operation, although no development of the uterus takes place. This advice I did not follow in Case VII, nor can I endorse it, under ordinary circumstances, in view of the risks to life and health attendant upon the

[2] Von dem Mangel, Verkümmerung, und Verdopplung der Gebürmutter. Würzburg, 1859, p. 45.

[3] Principles and Practice of Gynæcology. Third edition, Philadelphia, 1884, p. 189.

operation, and the very meagre chance of so brilliant a success as crowned Dr. Emmet's efforts in the one case.

ABSENCE OF VAGINA, UTERUS, AND PRESUMABLY OF THE OVARIES.

CASE VI. Mrs. K. C., twenty-two years of age, a well-nourished American girl, of Irish parentage, applied at the out-patient department of the City Hospital on August 12, 1878, to learn why she had never menstruated. From the age of fourteen years she had occasionally had backache, headache, abdominal pains, and general malaise, yet none of these were periodical in their recurrence.

She was married three and a half years ago, the marital functions having since been regularly exercised with partial satisfaction to the husband, but without the natural sensations to the wife.

On examination the mons veneris and labia majora were normal in appearance and well covered with hair; the clitoris, its prepuce and the labia minors were well developed. What appeared to be the vaginal entrance just below the urethra was peculiar from the entire absence of caruncule myrtiformes or other trace of the hymen. On inserting the finger, the pseudo-vagina was found to end in a blind pouch about one inch from the entrance; its walls were notably thin and entirely free from the characteristic rugæ. On stretching the labia widely apart I found that this pouch was completely obliterated, its walls becoming directly continuous, with the mucous membrane of the labia. These phenomena suggested that the pouch was in reality to be regarded either as an imperforated hymen or an imperforated perineum, which had been so persistently assaulted by the male organ that a pouch had ultimately been formed.

By recto-abdominal palpation the finger could be brought in contact throughout the greater portion of the pelvic cavity without detecting any vestige of the vagina uterus or ovaries. In fact the explorations could be made so thorough as to exclude the possibility of the presence of these organs except possibly in a very rudimentary condition. A sound in the bladder could be felt through the recto-vertical septum without the interposition of a vagina.

The vulvar cleft was lubricated by the secretions of the vulvo-vaginal glands, the meatus of which were visible, one gland was felt as large as a pea. The breasts were flat, the mammary glands, nipples, and areolæ small.

ABSENCE OF VAGINA, AND PRESUMABLY OF THE OVARIES; A BARE TRACE OF THE UTERUS.

CASE VII. On February 28, 1886, Miss F. H., of American parentage, aged twenty-eight years, was brought to me for examination by Dr. A. P. Perry, of Jamaica Plain. She reported never having menstruated or even had the menstrual molimena. Her health was good except for nervousness during the past month. The other functions were all well performed. The breasts were under size, the nipples and areolar normal, but no papillæ visible. The external genitals were fully developed, the orifices of the vulvo-vaginal glands perceptible; the clitoris and its prepuce prominent. There was no trace of the vaginal orifice. The urethra was so patulous that the little finger passed easily into the bladder, though there had been no incontinence of urine. With the little finger in the bladder and the forefinger of the other hand in the rectum, the entire absence of the vagina could be established. The only trace of a uterus was a small nodule, no larger than a bean, suspended in the middle of the pelvis by the broad and round ligaments which swung across the middle of the pelvis like a hammock. I advised against any attempt of the establishment of a vagina or the development of the uterus.

My last case is of an entirely different character, the characteristics being the result of injuries sustained in an instrumental delivery. The substitution of cicatricial for normal tissues in such cases almost always entails failure in the attempt to keep the canal patulous after enlargement owing to its contractility. Persistent efforts should, however, be made, unless the patient as in my case, refuses to submit to successive operations.

URETHRO-VESICO-VAGINAL FISTULA. CICATRICIAL CONTRACTION OF VAGINA.

CASE VIII. Mrs. G., of French parentage, consulted me in the spring of 1882 on account of complete incontinence of urine, which dated from an instrumental delivery of a dead child five years before. She was twenty-eight years of age, a woman of large frame and full flesh. On examination the finger passed directly into the bladder through a rent nearly an inch long, beginning at the upper third of the urethra and running backwards along the base of the bladder. Where the fistula ended the calibre of the vagina was narrowed to the size of a quill by dense, unyielding cicatricial tissue. Coitus, which had been frequent, though always with pain to the woman, had evidently taken place into the bladder. She was admitted to my private hospital and the fistula closed by seven silk sutures with firm union. At a subsequent operation an attempt was made by forcible dilatation and the knife to re-establish the vaginal canal. A glass plug was worn for several weeks, in spite of which the cicatricial tissue contracted down to its former dimensions and the woman went home content with the relief afforded by the closure of the vesical fistula. The husband has never been satisfied with the result.

ALLEGED ORGANIC DISEASE OF THE BRAIN FOLLOWING MODERATE CONCUSSION.

CASE OF LOUISA V. RUSSELL VS. BOSTON & LOWELL R. R. CO.

BY ARTHUR H. NICHOLS, M.D.

THIS case, which has recently come before the Superior Court, possesses features of interest on account of the novel combination of symptoms manifested by the plaintiff, and the consequent difficulty encountered by the physicians in their attempt to construct any satisfactory theory consistent with admitted facts to account for her condition. This difficulty was further augmented by her deafness, and the fact that she has not been kept under continuous observation during the interval between the reception of the injury and the trial, which gave opportunity for a wide divergence of opinion as to her condition at any given time.

The defendant corporation labored under especial embarrassment, for, when a few days before the trial the privilege of an examination was ultimately accorded, it was to one physician only; whereas, in her own

behalf, several physicians had had the advantage of frequent examinations with details as to previous history and record of illness.

The essential facts in the accident leading to this litigation are as follows: On the 7th of October, 1884, a freight-train, proceeding at a not unreasonable rate of speed on a down grade, got beyond the control of those in charge. As the train passed Arlington, held somewhat in check by the brakes and reversed engine, an ineffectual attempt was made by the switch-tender to divert it to a side-track. Now it happened, that while the forward box-cars were empty, the rear-cars were heavily laden with gravel, and thus the momentum of that end of the train caused a doubling and piling-up of the cars at a point directly opposite a frame dwelling-house situated about twenty feet from the nearest rail. One box-car was thus projected over the wreck, and tumbling over brought up against this house, knocking a hole in the side-wall of the kitchen where the plaintiff was at the time engaged in her ordinary housework, detaching some of the side-plastering and possibly some of the laths, but not separating any fragments of posts or studding. At the time of the crash she was stooping over the oven with her right side toward the wall of the house thus broken in, and avers that she received a blow on the side of her head, after which she was more or less dazed and can give no intelligent account of what occurred, except that she was very much frightened. A daughter, who was up stairs when the crash occurred, came down a few moments after, and found her mother coming out into the hall perfectly conscious, with hand to her head and covered with fragments of plastering and a few splinters of laths. There was certainly no outward evidence of local injury (bruise or swelling); and the fact that she was not thrown down, rendered unconscious, or even nauseated would at least indicate that the blow received was not of great severity; and her appearance subsequent to the accident, as testified by her daughter, husband, and neighbors who soon afterward entered the house, would suggest extreme fright rather than injury. It must, however, be admitted, that this fright did not then, or at any subsequent time, assume the form of nervousness or hysteria, the patient being of a phlegmatic temperament. It will be seen, therefore, that there was no satisfactory evidence to show whether she was in reality struck on the head, as alleged. Certainly her appearance, and the condition of the room after the accident, would lead to the presumption that if struck by any object propelled from the broken wall, it was by a loose fragment of plastering: or that possibly in her hurried escape she struck her head against the door or door-jamb.

For the period of about a fortnight after the accident she appears to have been dressed and about the house each day. Though doing no house-work she was able to attend to the adjustment of the award for damage to the house, making one visit to Boston in connection with this business, and meeting at various times the agents of the corporation, but making to them no allusion to personal injury. It will thus be understood, that when at a subsequent date, having in the meantime felt aggrieved at the small sum awarded by referees on account of damage to the house, she preferred a claim for personal injury, it was not unnatural that her allegation should be viewed by the corporation with suspicion and held to be an after-thought.

Now assuming for the moment the correctness of the idea, that for some time after the accident no purpose was entertained of claiming damage for personal injury, then additional weight is imparted to the statement made by the attending physician, Dr. F. A. Harris, who was called in two days after the accident. This gentleman testified, that the prominent symptom subsequently complained of, namely, fixed, circumscribed pain in the head, was the chief symptom at the very outset; and that she unequivocally attributed this pain to the blow which she said she had received at the time of the accident. Her pulse was then high (104), and has always since continued at about the same rapid rate. At the expiration of about a fortnight she became worse, suffered from insomnia and appears to have had occasional illusions or transient aberrations of intellect; and either lay abed, or on the lounge, doing no work whatsoever. Up to the last of July she had received sixty-five visits from Dr. Harris, who regarded her condition as serious. In the autumn and winter (1885–6) she improved, and was able to dress herself and sit about the house, lending a hand occasionally in the less onerous work of the household, though suffering occasional relapses, during which her character and disposition seemed materially changed. At times she was permitted to hang out a part of the wash even in extremely cold weather, thus exciting the belief on the part of some of those who saw her, that she was substantially restored to health. Now, the simple exposure of such an invalid to a winter air may have been unobjectionable, inasmuch as the general effect of a low outside temperature upon the organism is not unlike the effect produced by a cold head-douche. But the exercise involved in hanging out clothes must be pronounced at least injudicious, if there existed, as is assumed, any lesion of the brain. To interpret, however, this indiscretion as evidence of fraud or exaggeration, would indicate an imperfect knowledge of the eccentricities of the patient, or the intelligence of those about her. Indeed, there appears to have been no time when she did not express her ability and willingness to go anywhere or do whatever was required.

The plaintiff was first seen and examined by me four days before the trial. I found a rather stout woman, aged fifty-six, whose great deafness added to a condition of stupor or lethargy made it no easy matter to sustain communication with her, and at the end of forty minutes I had made so little headway, and the patient was so fatigued, that it seemed prudent to withdraw until the next day. After three protracted interviews the following opinion was formed as to the nature and extent of the injury: That the symptoms were mainly of a subjective character and afforded a presumption that as the result of external violence, there had been sustained a concussion of the brain with slight hæmorrhage. That in consequence of the subsequent activity of the patient, when absolute rest was essential to facilitate absorption of the hæmorrhagic deposit, there had supervened an inflammatory process which was likely to be of long duration.

The symptoms upon which this opinion was based, were: 1st, the moderate but persistent, circumscribed pain in head complained of from the day of the accident; 2d, the uniformly accelerated pulse; 3d, the impairment of mental faculties as indicated by very great loss of memory, alteration of character, irritability, etc.; 4th, local congestion of conjunctiva and capillaries of face.

When her mind was forced to fix itself upon any

one subject she could talk intelligently; but left to herself she appeared to have lost all volitional control of the sequence of thought, so that her mind acted automatically. Upon matters connected with the accident she could at all times answer without much hesitation, but about every-day subjects she had shown no interest and seemed totally ignorant, was moreover unequal to the simplest arithmetical calculation. Appeared in fair bodily health with physicial functions all well performed. Averred that she was perfectly well except as to headache. There was a slight numbness of the right arm and a hyperæsthesia of the area of the neck supplied by the *occipitalis major* nerve, with constant jerking of the right arm. Pulse varied from 104 to 110. Once placed upon her feet she walked about like one with vertigo, slowly but without assistance. The control of the limbs was unimpaired; no rigidity of back; head and neck held with care as if somewhat sensitive to jar. The arm and neck symptoms were of somewhat doubtly origin, but might be attributable to strain communicated to the cervical and brachial plexus of the spinal nerves, a not unnatural effect of a blow received on the side of the head when stooping. In place of the multiplicity of symptoms, many of a trivial character, forming the typical picture of neurasthenia or hysteria, there is here presented the reverse condition of a woman calm and as a rule uncomplaining, but manifesting two persistent symptoms ordinarily regarded as indications of grave lesion of the brain; and when following a blow upon the head as possible precursors of insanity. To be sure, there were absent that unequivocal paralysis of head and extremities, which would have reduced this presumption to a certainty.

It would be impossible to assume this to be a case of malingering, a theory inconsistent with the observations of the attending physician or the appearance and previous character for trustworthiness of the plaintiff and her family. The simulation of organic brain trouble is not admitted as within the range of possibility by any treatise on malingering; while there exists no means of artificially maintaining the pulse at the high rate of 104–110. Not the least puzzling incident in this affair was the appearance of this woman during the first day of the trial, when she was brought into the court in a condition too prostrate to admit of her giving any evidence whatsoever; whereas upon the second day, conciliated by the insidious and skilful attentions of the lawyer, her mind was stimulated under the ordeal of a cross-examination to such unnatural activity that her general deportment compared favorably with that of the other witnesses produced, and undoubtedly impressed observers with the conviction that her condition was after all less grave than had been represented. Had she been questioned at this time on any matter not connected with the accident, she would in all probability have become speedily incoherent.

To recapitulate: —

In accordance with the theory advanced in behalf of the plaintiff, there was sustained at the time of the accident a slight concussion of the brain, not attended, however, by the usual immediate after-effects (stunning, nausea, continued prostration, delirium). In the absence of these ordinary symptoms, the real nature of the trouble was for a time not suspected, and consequently absolute rest, the essential element in the treatment of such lesions, was not enjoined, and the trouble was therefore aggravated by imprudent acts. It was held, furthermore, that the persistence of the significant phenomena (fixed, local pain in head, fever, etc.), was only explicable upon the theory of organic, structual lesion. Assuming this view to be correct, and no more plausible theory was constructed to account satisfactorily for the array of facts presented, then the inevitable and logical conclusion was, that no great improvement could be predicted.

In behalf of the defendant it was urged, that the subjective character of the symptoms, the mildness of the local pain, and above all the absence of decided paralysis of the face or extremities, pointed rather to functional disturbance, the *sequelæ* of fright or worry rather than of injury; and that the prognosis was, therefore, favorable. The latter view appears to have found favor with the jury, who awarded the plaintiff the moderate sum of one thousand dollars.

RECENT PROGRESS IN DENTISTRY.

BY WILLIAM HERBERT ROLLINS.

A.

ALTERED SALIVARY SECRETION.[1]

From each parotid duct there exuded a thick purulent fluid, which, to the naked eye, as well as to microscopic examination, presented all the characters of "laudable" pus; the mouth was somewhat dry, and the whole mucous membrane had a curious reticulated look; the pus about the orifices of the ducts was free from odor and did not contain organisms, but the breath was unpleasant. The pus was strongly alkaline. The secretion began after an attack of typhoid fever and had existed for twenty years. The other oral secretions were normal. The patient's health was excellent, her digestion apparently perfect. The case is of great interest as showing that health can be maintained without the parotid secretion, and while daily swallowing large amounts of pus.

EPIPHORA AND SLIGHT ECTROPION CURED BY THE EXTRACTION OF A TOOTH.[2]

There was a fistulous opening about half an inch before the inner canthus of the right eye, and well marked epiphora, as well as slight ectropion on that side. On an examination no canine could be found. An incision into the jaw over the position usually occupied by this tooth revealed the presence of a buried canine root. When this was extracted all the symptoms disappeared gradually.

CALCIFICATION OF THE TOOTH PULPS CAUSED BY NEURALGIA OF THE TRIGEMINAL NERVE.[3]

The patient had suffered with violent toothache for five months. Seven teeth had been extracted during this time without any relief. The extracted teeth were only slightly carious and had been filled. As the woman was only twenty, he did not consider that the new formations of dentine which was found in all the extracted teeth could have been physiological, as they might have been in an old person. Nor did the disease seem one originating in the teeth, for it extended to so many. In seeking for a cause elsewhere it was found that the trigeminal nerve was affected. The frontal, the supra, and infraorbital, and the zygomatic

[1] Tomes in Journ. Brit. Dent. Assn., p. 465.
[2] J. M. Ackland, in Journ. Brit. Dent. Assn., p. 467.
[3] Spoffella in Brit. Journ. of Dent. Science, October, 1885.

points were all very tender to pressure. The diagnosis was neuralgia of the second and third branches of the trigeminal nerve. The patient was anæmic, and of a family subject to nervous diseases. The treatment, which was successful, consisted of Fowler's solution, bromide of potash, and sulphate of iron. This case is interesting as these pulp ossifications are undoubtedly on the increase, and there is a tendency to consider them local in origin.

NECROSIS OF ALVEOLAR RIDGE AFTER MEASLES.[4]

Three cases are reported, but the details are not given.

CROWDED ARCHES THE CAUSE OF RIGGS' DISEASE.[5]

This writer considers that lateral compression is the predisposing cause of the wasting of the alveolar processes. The jaws are not large enough to allow the teeth to assume proper positions. He thinks that fungi are the immediate cause of the inflammatory process.

EPILEPSY FROM DENTAL CARIES.[6]

Two cases are given in which the epileptic seizures disappeared immediately after the extraction of a carious tooth.

LAGOPHTHALMUS DUE TO DENTAL IRRITATION.[7]

The left eyelid was so drawn up that the white showed above the iris. The second and third left molars were extracted because decayed. This relieved a persistent neuralgia with which the patient had suffered, but had no effect upon the eyelid. A year after it was decided to remove a filling in the left upper third molar. An exposure of the pulp was found. The tooth was extracted, and as a result the trouble in the eye gradually got well, having entirely disappeared in six months.

EFFECT OF MENTAL OVERWORK UPON THE TEETH.[8]

Among the hard-worked pupils of the Paris public schools, the teeth become deteriorated in a few weeks after entry. The second dentition is often premature. These observations confirm the statements of Dr. J. L. Williams, who has given great attention to this subject. He has shown that any mental strain shows itself upon the teeth in a short time, both in increased decay, as well as in increased sensibility of the dentine. Dr. D. M. Parker has reported that these same changes are always apparent in men who are in training for athletic trials. As there is not the slightest doubt of the accuracy of these observations, they show that these are matters which demand serious consideration from educators.

SPINAL IRRITATION FROM THE TEETH.[9]

The patient, a girl of fourteen, had been under treatment for two years for reflex spinal irritation which was considered hysterical. An examination of the mouth showed that the bicuspid teeth were low down and wedged between the molars. The molars were extracted, and it was then found that the pulps were exposed. This exposure was thought to be due to absorption caused by the bicuspids. The patient recovered at once.

[4] Coterell in Brit. Journ. of Dent. Science, p. 132, 1886.
[5] Bate in South. Dent. Journ., p. 64, 1886.
[6] Leibert in Brit. Journ. of Dent. Science, p. 116, 1886.
[7] Dent. Cosmos, p. 123, 1886.
[8] V. Gallippe in Brit. Journ. of Dent. Science, p. 995, 1885.
[9] Redman in Brit. Journ. of Dent. Science, p. 715, 1885.

EPISTAXIS CAUSED BY A TOOTH.[10]

There was severe hæmorrhage from the right nostril at intervals for several days. The upper right lateral was extracted; the blood flowed profusely from the nose but soon subsided and the bleeding did not return.

B.

ALVEOLAR DENTAL MEMBRANE.[11]

This membrane consists of two distinct layers, developed from separate centres. The outer layer of fibrous connective tissue is the periosteum of the bone, the inner a layer of fine cells, originating in the dental follicle is the true root membrane.

IS A TRANSPLANTED OR REPLANTED TOOTH PULPLESS?[12]

He relates two cases in which in regulating, it became necessary to rotate an upper lateral incisor. The ordinary means failing, the tooth was extracted and replaced in the proper position. These teeth have never discolored, and are as sensitive to heat and cold as the other teeth in the same mouth. This he thinks proves that the pulps are living.

Two similar cases have come under my observation in which perfectly healthy teeth in young persons having been entirely separated from the jaws by blows were replaced and to all appearance have healthy pulps; and when afterward they decayed, the dentine was sensitive.

A NEW METHOD OF RECORDING THE MOVEMENTS OF THE SOFT PALATE.[13]

A straight rod is passed through the nose from before backward, in the living subject. In this position it is not influenced by the movements of the soft palate; but if the end of the rod which remains without the nostril is raised so that it comes in contact with the anterior border of the nostril, the pharyngeal end will lie in such a position as to receive a decided motion when the soft palate is raised. Supporting this rod from the forehead and recording its motions on carbonized paper gives a means of studying the motions of the soft palate in deglutition, respiration, coughing, hawking and snuffing, etc.

PROGRESSION IN TEETH.

Human teeth have a tendency to move forward. This is seen clearly under several conditions. If a molar is extracted the teeth behind the gap move forward so that the space is almost entirely closed from this movement. If a tooth is extracted in regulating to make room and we wish to draw back the teeth in front of the gap, we shall find it necessary to have the frame from which the tension is exerted, extend around several teeth behind the space, for if the frame is attached to only one tooth on each side of the space the tooth behind will move forward much more than the other will move back. This is true even where the tooth behind the space is large and firmly implanted by means of three roots, as in a molar. The following case illustrates this: A canine tooth erupted behind the lateral incisor. There was much pain of a neuralgic character which I could account for only on the supposition that this tooth in some way acted as an irritant to the first bicuspid in which the pain was

[10] Johnston in Dent. Cosmos, November, 1885.
[11] Ingersol in South. Dent. Journ., p. 415, 1885.
[12] Underwood in Brit. Journ. of Dent. Science, p. 30, 1886.
[13] Allen in Ohio State Journ. of Dent. Science, p. 551, 1885.

located. The bicuspid was therefore taken out and an attempt made to draw the canine back. A frame extending around all the three molars and second bicuspid was made and used as the fixed point from which tension on the canine was exerted, but the canine remained stationary while all the teeth behind began to move forward. It was found necessary to have a plate attached to all the available teeth in the mouth to prevent the teeth from moving forward before the canine moved back. This is an extreme case as the root of a canine is deeply implanted, but it serves to illustrate this tendency in teeth which I am certain exists. We see it plainly in some of the lower animals, as in the elephant, who has a constant progression of the molars whereby the masticating surfaces are kept constantly renewed.

C.

RAPID SEPARATORS.

Numerous attempts have been made, from time to time, to produce an instrument for quickly separating the teeth, to prepare for filling. None of these attempts were successful. Recently, Dr. Bogue has devised a series of these instruments, which are of great value, as with them, enough space can be got in a few minutes to enable filling to be done without previous wedging, in the ordinary slow way.

DANGER FROM SMALL ARTIFICIAL PLATES.

Several cases of death from swallowing artificial plate, are mentioned in the journals for the past year. This shows how important it is to warn patients not to sleep with such appliances in their mouths.

AN ALL-PORCELAIN CROWN.[14]

The crown consists of a piece of keramic body baked to the shape of the crown, which has been lost by decay. Wires projecting above the roots, into which they are firmly fixed, are the means of holding the crown in position, as they project into a hollow in the crown, being fastened there with cement.

A BAND MATRIX.[15]

The matrix consists of a narrow and thin band of steel, of sufficient length to go three-quarters around a tooth. To use the matrix, it is bent around the tooth to be filled, and held in position by a small clamp, the ends of which go into holes in the ends of the band. By turning the screw in the clamp, the band is drawn tightly against the tooth, and held there.

FRACTURED TEETH.

The usual explanation of a fracture in a tooth, is to say that the tooth has received a blow. Redman [16] reports a case in which there was no history of a blow, nor, indeed, had the tooth any antagonistic tooth, so that it seems impossible to consider the fracture traumatic. In this case, the first symptom was severe pain, which lasted for two days. Then the tooth became loose, and was found, by the dentist, to be split in halves lengthwise.

AN IMPACTED TOOTH FROM A FALL.[17]

The patient, falling from a horse, drove the right upper lateral into the jaw, so that it could not be seen from the front. The tooth was grasped with thin forceps, drawn into place, and held with splints for four days, when it was firm enough to do without further treatment.

A NEW OPERATION FOR SALIVARY FISTULA.[18]

The fistula, which was caused by a stab, opened on the cheek, and had no communication with the mouth. Two needles, threaded on one fairly-strong piece of silk, were successfully passed through the fistula into the mouth, piercing the buccal membrane one-quarter of an inch apart; the ends were firmly tied, inclosing a portion of the duct, and the surrounding tissues. The internal wound healed in a few weeks, and the saliva found its way into the mouth, as usual.

ACCIDENTS IN TOOTH EXTRACTION.

At the December meeting of the Odont. Society of Great Britain, MacCormac related a case in which, during the extraction of a tooth, the forceps broke, and one blade disappeared. The patient immediately became "black" in the face, and almost suffocated. These symptoms gradually disappeared, and at the end of six weeks, there was no great cause for anxiety, though she suffered from pain on the right side of the sternum, spasmodic cough, and bloody expectoration; so it was decided to open the wind-pipe. Through this, in opening the end, the broken blade could be felt, five inches below, in the right bronchus. The fragment was removed, the patient making a good recovery. As the forceps were made by Evrard, the most distinguished maker who has ever lived, there is no reason to think that they were not as perfect as possible. The case, therefore, shows the importance of guarding the throat in tooth extraction. A case occurring in my practice, shows one other danger, which has never been mentioned. In an attempt to extract an upper bicuspid, the forceps slipped, and closing just as it reached the lip, it took a piece of this between the blades and severed it entirely, thus causing a permanent scar. As there is no use in having the blades of forceps with sharp-cutting edges, which come in contact, this very common form ought to be discarded.

PREPARING FOR THE ERUPTION OF THE FIRST PERMANENT MOLARS.

These teeth usually erupt when a child is six years old. They almost always decay, either during eruption, or shortly afterward. Until the eruption of the bicuspids, five years later, the anterior surfaces of these teeth are in contact with the first, or temporary molars. It is a well-established fact, that contact between teeth will result in decay in most mouths. As the temporary molars are to remain in the mouth for a few years only, there is no objection to so cutting away the posterior surfaces of these teeth, so as to give as small a contact as possible between them and the first permanent molars. A dentist should always see a child shortly after the age of five years, in order that this treatment may be carried out before the permanent teeth erupt, because after this, it is difficult to properly do the extensive cutting without injury to the permanent tooth, whose enamel is always soft at first. If it were possible to grind away the backs of the temporary molars, and thus prevent the permanent ones from ever touching them, the danger of decay would be slight, but there is a peculiar tendency in teeth, which has not been properly explained, or, so far as I am aware, noticed; this is the tendency which they

[14] Howland in Ind. Pract., p. 137, 1886.
[15] Guilford in Dent. Cosmos, p. 138, 1886.
[16] Brit. Jour. of Dental Science, p. 715, 1885.
[17] Tomes in Brit. Jour. of Dental Science, January 15, 1886.
[18] Hodgson in Dent. Cosmos, November, 1885.

show to move toward the front of the mouth. I shall speak of this later, under the head of "Progression in Teeth." It is due to this tendency, that it is not practical, in most cases, to maintain perfectly free spaces in the positions named.

The best one can do, is to grind the backs of the temporary molars, so that they shall only touch the permanent teeth at small points near the grinding surfaces, for here, contact will do the least harm: first, because the enamel is strongest there; and second, because, if decay should begin, it can be more easily managed than at any other point on the approximal surfaces. Without a figure, it is not easy to explain the shape this preventive trimming should make the teeth.

FATAL HÆMORRHAGE FROM TOOTH EXTRACTION.[19]

Patient, aged twenty-two, was admitted to the hospital for chronic synovitis of right knee, caused by a blow. Ten weeks after this, an aching lower molar was extracted. The bleeding ceased in a few minutes, but soon returned so profusely, that it was necessary to plug the socket. The bleeding continued, without interruption, for seven days, when the patient died. Just before death, the temperature had risen to 102.6° F. All known styptics were tried. Stimulants were given at short intervals. As a similar case, in which transfusion was used, was given in my report for 1884, in which the patient recovered, after he had become practically dead, it seems worth while to speak of this again, as this treatment did not seem to have occurred to the medical men who had this case in charge.

(To be continued.)

Reports of Societies.

PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

C. M. GREEN, M.D., SECRETARY.

ANNUAL MEETING, April 24, 1886, the President, DR. GEORGE B. SHATTUCK, in the chair.

DR. A. L. MASON reported two cases of

HYPERTROPHIC CIRRHOSIS OF THE LIVER.[1]

DR. J. R. CHADWICK reported some cases of

ATRESIA OF THE GENITAL CANAL.[2]

DR. J. W. FARLOW said that the evidence of the stomach having been perforated by the trocar in Dr. Chadwick's last case was unmistakable. As soon as anything was taken by the stomach it appeared at the trocar. In subsequent microscopic examinations of the discharges from the canula there were found meat fibres and fat globules from milk: medicines also escaped, and there was a strong odor of gastric juice in all that came away. The patient's excessive diarrhœa was accompanied with an enormous appetite, which of itself would dilate the stomach. It is also probable that adhesions formed between the stomach and the abscess which served to drag the stomach down, especially after the evacuation of the abscess. It is strange that there was no indigestion, pain, or vomiting, as the result of the condition of the abdominal organs.

Dr. Farlow also related the following case, similar to one of those which Dr. Chadwick had just reported:

Mrs. M., aged 34, was married the first time seven years, and the second time two years. The catamenia have never appeared. Every month since the age of seventeen she has had severe abdominal cramps as if she were to menstruate. This pain has been more marked on the left side, and for the last year or more has been so severe that she has taken morphine for its relief. Sexual feeling has been present and coitus has not been painful. The labia majora, minora, and clitoris, in fact, the whole external genitals were normal, except a slight dilatation of the meatus urethræ. The vagina was a blind pouch one and a half inches long: nothing could be felt at the end but a small, hardish mass. Per rectum, I made out a hard nodule the size of a bean and on either side some small kernels, probably a rudimentary uterus and ovarian tissue. The patient said her first husband had made no complaint of her condition, but the second husband was not so well pleased.

DR. A. N. BLODGETT said that the case last described by Dr. Chadwick presented a most remarkable series of phenomena. The existence of an abscess of these colossal proportions in the parieties of the abdomen is in itself not a common occurrence. The communication of the abscess cavity with the intestinal canal is not so rare. The great feature which must excite astonishment is the surprising result of the vaginal puncture. It is doubtful if another instance can be found in the records of surgery in which the stomach has been drained through the vagina. The fact that a gastro-vaginal fistula can exist without at once destroying the life of the patient may be explained in the following way: the existence of an abscess of the magnitude of the one described in the present case must have excited a certain amount of inflammatory action in the surrounding tissues, and no doubt the peritoneal covering of the various visceral organs in the vicinity was also the seat of adhesive inflammation; this is often observed, as the result of inflammatory action in the vicinity, in which the organs become firmly united to one another and to the abdominal parieties. If this had occurred in this case, it might easily happen that the stomach would be drawn downward by the draining of the cavity of the abscess with the wall of which it was in firm contact, and the trocar, inserted into the cavity of the abscess, would easily penetrate the septum between the abscess and the stomach, and thus the contents of the stomach would at once appear in the vaginal drain. There seems to be no other satisfactory way in which to account for the innocent result in this case. It would be thought impossible to open the stomach from below, upon an unattached portion of its surface, by a puncture from the vagina, in the direction of the length of the body, without injuring important organs, the result of which would in itself be very grave: when we think, however, of the almost inevitable invasion of the abdominal cavity with the contents of the stomach, and the fatal result of this accident, we must, I think, come to the conclusion that the general cavity of the peritoneum was not opened by the trocar; but that the adhesion of the stomach to the neighboring organs and structures had shut off or obliterated the peritoneal space at this point, and thus averted what in all human probability must otherwise have been a fatal result.

INCIDENTAL BUSINESS.

The Treasurer submitted his annual report, showing the income of the Society to have been $734.35, and the

[1] Publication necessarily deferred. [2] See page 505.

[19] Albert, Dental Record, p. 85, 1886.

expenditures $524.75, leaving in the treasury $209.60. The Publishing Fund now amounts to $181.98.

The Committee on Social Meetings reported that there had been collected during the past year for the use of the Committee $197.50; the amount on hand at the last annual meeting was $58.73, and during the year $64.73 had been expended. The unexpended balance, $191.50, will more than suffice for the ensuing year.

PROPOSED AMENDMENT TO THE BY-LAWS.

DR. A. B. MORONG submitted the following amendment to by-law XV., the same to be an addition to the present by-law, to wit:

In making nominations for the offices of the Society in 1887 and each subsequent year until otherwise ordered, the nominating committee shall not nominate any member who has held any office in this Society for two consecutive years immediately preceding the year for which such nomination is made. Nominations for Treasurer, Secretary, and Librarian are excepted from this restriction.

Action on this proposed amendment will be taken at the next stated meeting in October.

ELECTION OF OFFICERS.

The Nominating Committee presented its report. Dr. J. R. Chadwick declined to be a candidate for the office for which he had been nominated, and Dr. A. H. Nichols was named in his place. Ballots then having been given in, it appeared that the following officers had been duly elected:

President, George B. Shattuck; *Vice-President*, John Homans; *Secretary*, Herbert L. Burrell; *Treasurer*, Edward M. Buckingham; *Librarian*, B. Joy Jeffries; *Commissioner of Trials*, Charles W. Swan; *District Nominating Committee*, Hasket Derby; *Committee of Supervision*, Arthur H. Nichols, Albert N. Blodgett; *Committee on Social Meetings*, Morton Prince, Vincent Y. Bowditch, Harold Williams, Frank B. Harrington; *Censors*, Elbridge G. Cutler, Thomas M. Rotch, Frederick C. Shattuck, Francis H. Williams, Charles M. Green; *Councillors*, S. L. Abbot, J. Ayer, H. J. Bigelow, C. J. Blake, J. G. Blake, H. I. Bowditch, E. H. Bradford, A. T. Cabot, D. W. Cheever, H. Curtis, H. Derby, O. W. Doe, F. W. Draper, S. H. Durgin, T. Dwight, R. T. Edes, R. H. Fitz, C. F. Folsom, M. F. Gavin, G. W. Gay, J. O. Green, F. B. Greenough, W. H. H. Hastings, R. M. Hodges, C. D. Homans, J. Homans, W. Ingalls, B. J. Jeffries, F. I. Knight, S. W. Langmaid, M. B. Leonard, G. H. Lyman, A. E. McDonald, F. Minot, C. B. Porter, J. P. Reynolds, W. L. Richardson, G. C. Shattuck, B. S. Shaw, A. D. Sinclair, A. M. Sumner, C. W. Swan, G. G. Tarbell, O. F. Wadsworth, J. C. Warren, T. Waterman, W. G. Wheeler, J. C. White, E. N. Whittier, H. W. Williams.

PENNSYLVANIA STATE SANITARY CONVENTION UNDER THE AUSPICES OF THE STATE BOARD OF HEALTH.

THE first session of the convention was opened at McCaul's Opera House, Philadelphia, Wednesday, May 12, 1886.

The meeting was called to order by WILLIAM PEPPER, M.D., of Philadelphia. In opening the session the President referred to the great importance of such meetings and to the necessity for education of the public to the vital importance of attention to sanitary matters.

GOVERNOR PATTISON was then introduced and gave a *résumé* of the sanitary work of past ages, and referred to the stress laid upon hygienic sanitation by the ancients, more particularly with reference to the Mosaic laws and Rome. In concluding, he said that no community with well-organized sanitary arrangements need be alarmed at the appearance of a pestilential disease, for they have at hand the means to at once control it.

The first paper of the morning was entitled:

AN EPIDEMIC OF DIPHTHERIA TRACED TO ITS SOURCE,

by BENJAMIN LEE, M.D., Secretary, Pennsylvania State Board of Health.

He described the epidemic of diphtheria which occurred in the city of Pittsburgh in 1877. The outbreak of the disease was confined to one portion of the city known as the south side. The mortality rate ran up from zero in June to 92 in August and 267 in October. During the seven months immediately preceding the outbreak there were only 35 deaths. The first cases occurred in immediate proximity to the Washington Street sewer. The street sewers were unprovided with drops. A portion of the south side is situated on a steep hill up which the sewer extends, and seemed to act as a ventilator for the one on the level. Examination of the sewers showed that they were filled to a depth of from one to three feet with deposits of filth, which on account of the slight fall of the main sewer could not be washed out. This condition had existed for years. What was the spark that exploded the mine? Prior to the outbreak there was a series of heavy rain storms, filling the sewers to overflowing. The effect of this was to force sewer gas into the dwellings. In many of the dwellings in connection with the Washington Street sewer there were not provided either traps or ventilators. To these conditions the outbreak causing the death of four hundred children was clearly attributable.

In discussing the paper the REV. GEORGE B. STROUD remarked that the whole system of drainage was a mistake. The only remedy is to wipe out the whole system. He thought that it would be advisable to substitute earth-closets, and destruction of foul matters with fire. The removal by water has proven unsatisfactory.

DR. CROSBY GRAVES, Health Officer of Pittsburgh, stated that the Washington Street sewer had never been intended for sewerage purposes. It was intended for drainage purposes only; since the epidemic referred to, some improvements had been made.

NECESSITY FOR PHYSICAL EDUCATION,

by CARL H. HORSH, M.D., of Dover, N.H.

Rightly applied physical exercise is of great assistance in digestion and especially in improving the tone of the nervous system. The best results are attained by outdoor exercise.

TESTS FOR ORGANIC IMPURITIES IN WATER,

by HENRY F. FORMAD, M.D., of Philadelphia.

One of the best tests for purity of drinking-water is the health of the community. It has been established that many diseases are communicated through the drinking-water, particularly is this the case in such dis-

eases as cholera, and typhoid fever. It is therefore desirable to be able to have a method by which to determine the presence of organic matters. Up to the present time the methods have been purely chemical. The quantity by this method can be estimated, but its quality, whether living or dead, cannot be determined by this method. In this mode skilful manipulation and complicated apparatus are required.

The speaker then called attention to the biological or mycological test. Water contains living matter of different kinds; some is very useful, some is harmless, while another portion is exceedingly dangerous. The presence of these bacteria in large quantities in water indicates a large quantity of organic matter. They exist directly in proportion to the quantity of organic matter.

He then described the experiments made by himself and Dr. Allen Smith, his assistant. The methods employed are simple and can be used by any one. They consisted in making cultures with the water to be tested. The culture mediums have been sterilized gelatine and sterilized potato. Comparisons with water contaminated with a certain definite amount of sewerage, it was found that in the proportion of 1–5000, the presence of sewerage may be shown by the development of the micrococci. The speaker stated that he had found a micrococcus presenting peculiar appearance always present in water contaminated with sewage.

DR. VAUGHAN, of Ann Arbor, Mich., asked if it were not possible for water to be contaminated with the products of bacteria contained in the soil, while the water itself may not present bacteria? Also, whether the special micrococcus found in sewerage was harmful or not.

DR. FORMAD in reply stated that a few experiments seemed to indicate that this particular bacterium is not injurious. He thought that water might be contaminated with organic matter other than bacteria.

AFTERNOON SESSION. — IMPORTATION OF FOREIGN RAGS INTO AMERICAN PORTS,

by F. S. WILSON, M.D., Lazaretto, Physician.

The question of the importation of rags has been thrown on the local boards of health. The rags certainly afford an excellent breeding-place for germs. The speaker thought the proper plan would be to have the rags properly disinfected before being shipped. A still better plan would be the reduction of the rags to pulp before being shipped. Disinfection after reaching this country is a matter of great labor and expense.

In reference to the extent of the trade in rags it was stated that 1,659,347 pounds of rags valued at $48,596 were annually imported. The health of the people is of more importance than commercial interests. This question of the importation of rags is a matter for present consideration.

MR. WM. TAYLOR, Health Commissioner of Boston, stated that all rags have to be disinfected after arrival in Boston, and under the supervision of the Board of Health. This rule applies to all cargoes of rags, no matter whether or not disinfection has been practised before leaving the other side. The Boston Board of Health had been led to this action by finding that no reliance was to be placed on certificates of disinfection. The process employed is by superheated steam. It is better to exclude all rags than to have one case of disease from their introduction. A close watch should be kept on the whole coast, and everything should be done to guard the people of the United States against these diseases.

DR. A. N. BELL, of New York, stated that of all articles of commerce, rags are the most dangerous. Some sixty years ago in New York, rags were not admitted at all during the hot weather; the rule being that rags arriving during the summer should be kept on the ships or in storehouses until winter. As a result, no captain would bring a cargo of rags in the summer. Evidence is not wanting of the carrying of cholera and other diseases in rags. It has been claimed that the rags are cleaned before being shipped, but this is offset by the fact that the first process to which they are subjected in the paper mills is cleaning by heating in which fifteen per cent. of the weight is lost. Again it is not uncommon to find old poultice rags from hospitals in the bales of rags. Not only are rags dangerous, but ships trading with infected districts become infected and even if disinfection is practised before shipment, reinfection may take place. In regard to the process of disinfection, he regarded the method by super-heated steam as the best and is efficacious. The use of steam in this way is not injurious to the fabric. Dr. Bell moved that the plan employed by the Boston Board of Health be indorsed by the Convention, and recommended for introduction to all Boards of Health in the United States. This was adopted.

The following telegram from Dr. S. H. Durgin, Chairman of the Boston Board of Health, was read by the Secretary: —

BOSTON, MASS., May 14, 1886.

DR. LEE, *Secretary Sanitary Convention, Philadelphia.*

The copy of rag resolution adopted by your convention is received. The prompt notice is evidently intended as a compliment to the Boston Board of Health, of which I am the senior member. Being unwilling to accept any part of a compliment which does not belong to me, I therefore beg to say to your convention, through you, that the regulation in question, which requires that all imported rags be subjected to the patent steam process on arrival in this country, never has had and never will have my approval.

S. H. DURGIN, M.D.

DR. D. W. JEFFRIES, of Chester, read a paper on

HEATING AND VENTILATION OF PUBLIC SCHOOL BUILDINGS,

describing the Ruttan system of ventilation as applied to the High School at Chester.

ECONOMIC SANITATION,

by DR. ALBERT L. GIHON, Medical Director of the United States Navy.

Good sanitary work costs a great deal. The amounts appropriated for this work were entirely insufficient. A small sum of money properly expended might often prevent outbreaks of disease. The expenditure of $20,000 might have prevented the small-pox epidemic of 1872, which caused the loss of $25,000,000. Hog cholera becomes a matter of international treaty, but diphtheria might decimate a community and the Health Officer be left to his own resources.

NARCOTIC APPETITES,

was the title of a paper read by DR. J. LOURY SIBBETT, of Carlisle, Pa. This was followed by a paper on

OUR DRUGS AND MEDICINES,

by L. Wolff, M.D., Philadelphia.

An examination of drugs, made in this country were as a rule, of high character. Retail druggists have been accused of adulterating drugs but this accusation has been shown to be false. Only physicians, druggists and their assistants should be permitted to handle medicines. The manufacture of patent medicines should be restricted to qualified persons.

The evening session was devoted to the consideration of the First Annual Address, delivered by Hon. Erastus Brooks, of West New Brighton, N. J. His subject was

THE OBLIGATION OF STATES AND CITIZENS TO PRESERVE THE HEALTH OF THE PEOPLE.

He showed that the state would be comparatively powerless without the aid of citizens. He insisted that public health was public wealth, and that careful sanitation was true economy. The ignorance of the people in regard to the importance of these matters was illustrated by a reference to the opposition to vaccination in Canada, during the prevalence of smallpox. He referred to the great importance of supplying pure drinking water to the community.

After extending a vote of thanks to the reader of the paper, the convention adjourned to Thursday morning.

SECOND DAY.— MORNING SESSION.

PHYSIC TIPPLING AND MEDICINE BIBBING,

was the title of the first paper read, by Dr. Frank Woodbury, of Philadelphia.

"The object of this paper," said Dr. Woodbury, "is to direct public attention to a habit which has insidiously crept into our life as a people, and which in my estimation has attained sufficient proportions to warrant consideration at such a conference as this. The bromides only a few years ago were but little used; now it is estimated that at least two hundred tons are used every year in this country alone. Of chloral hydrate one ton a day is consumed in America and England. Nor will I speak of the vast amounts of the preparations of cinchona, of opium and of mercury, or of the alkalies, iodides, and digestive ferments which flow in a steady current from the stills of our manufacturing pharmacists down the throat of a confiding community. Why is it that civilized man in the nineteenth century consumes larger quantities of narcotic drugs — morphine, chloral, bromides, ether and chloroform — than his forefathers? Can we not see abundant evidence of the bad effects of over-medication in the weakened digestion and impressionable nervous system which have become almost universally recognized as characteristic of American life? Among the causes for the enormous drug trade in this country, is to be counted undoubtedly the overcrowding of the medical profession. Thousands of half-educated or entirely uneducated men, furnished with cheap diplomas, have been set loose to prey upon the community, and drug stores have sprung up at nearly every corner. But this is not all. The patent medicine advertisements warn us that hundreds of thousands of dollars are spent annually in the effort to induce our fellow citizens to purchase and consume medicines which otherwise they would not buy. Another reason for the extraordinary demand for medicine has its roots in the minds of the people. They are impatient and illogical. A large proportion of this community is suffering from indigestion in some form or other. They keep on eating and drinking the very things which make them sick and then call upon the druggists for aid. The growth within a few years of the demand for digestive ferments is astonishing. Pepsin and pancreatine in various forms, constitute a large proportion of the daily sales of city druggists. If the pepsin is introduced into the mouth our stomachs will naturally cease to secrete it, and consequently, according to physiological law, will lose the function. One fourth of all the children born in civilized countries die before they reach the fifth year, and the proportion is greater in large cities. Among the recognized causes of weakened vitality in children, I wish to place the abuse by parents of medicines acting on the nerves, and especially alcohol, tobacco, opium, chloral and the bromides. As sanitarians, we would teach the public that they should bear with patience the ills that flesh is heir to, that disease is very largely affected by mental states, and that physical troubles are made greater by thinking of them. Medicine is a two-edged sword, and if capable of doing good is also capable of doing harm. Physic tippling and medicine bibbing is simply a form of intemperance. The taking of medicine is a matter of grave importance and should only be done by competent medical advice, and should not be continued longer than the emergency demands. In conclusion, for the purpose of checking this evil, I should recommend,

1. The examination of all proprietary medicines by a Government or State commission of experts, who shall have power to permit the sale of such as are harmless or especially likely to prove serviceable, and to prohibit the sale of all which are particularly liable to do injury and those which are found to be worthless and frauds upon the public. Such a commission was appointed by the Japanese Government several years ago, and has been found to be of great service in that country.

2. The instruction of the public to properly estimate drugs and to regard every unknown medical agent as dangerous and endowed with capacity for harm. Let them endeavor to escape the caustic criticism of Molière upon those who pour medicine, about which they know little, into bodies about which they know less, in order to cure disease about which they know nothing at all.

CONTINUOUS PREVENTIVE DISINFECTION OF HOUSE-DRAINAGE,

by Henry Hartshorne, M.D., of Philadelphia.

The speaker referred to the epidemic of diphtheria and croup in Detroit, in which Mr. Wight, the Health Officer, had placed in the sewers 275,000 pounds of sulphate of iron, and had burned in them under cover, three tons of sulphur. The gas from this passed through the whole system of sewers. Immediately following this procedure, there was a marked diminution in the death rate, and in fact an almost total cessation. It has been asserted that sulphate of iron and sulphurous acid have no effect upon bacteria unless in strong solution. The method in which these agents act is uncertain. Koch believes that the effects of bacteria are the result of the poisonous products which they give rise to. It may be that a chemical agent which has no especial effect upon micrococci, bacteria or spirilla will yet antagonize or decompose the poisonous material which they produce.

We need to destroy or purify all filth on which these germs live and multiply, and to destroy the germs, or antagonize the poisonous materials. Many agents are useful for this purpose. They are, as a rule, applied fitfully. They should be employed continuously. Dr. Hartshorne then described an apparatus which accomplishes this purpose. This may be attached to any water-closet, and from it, a strong solution of chloride of zinc flows continuously into the bowl, at the rate of twenty drops per minute. This prevents any chance for decomposition of the fæces. With this arrangement, the traps cannot become dry. The chloride of zinc has no injurious effect upon the iron or zinc. The speaker thought that cess-pools should be done away with, and water-closets with this apparatus and with sewer attachments, should be substituted. This would make disease infection almost impossible. Diphtheria and typhoid fever would almost entirely disappear, and cholera, if it visited this country, would pass us by.

DR. HUGH HAMILTON, of Harrisburg, read a paper on the

RELATIONS WHICH THE TOPOGRAPHY OF HARRISBURG, PA., BEARS TO ITS DRAINAGE AND SEWERAGE.

DR. V. C. VAUGHAN, of Ann Arbor, Mich., described

THE CHARACTERISTICS OF HEALTHY DWELLINGS, PARTICULARLY FOR THE WORKING CLASSES.

THE MAJESTY OF THE LAW OF SANITATION,

was the title of the address of REV. J. ANDREWS, of Chestnut Hill, Pa.

The last paper of the morning session was

ON THE MEANS OF ELEVATING THE STANDARD OF SUPPLIES,

by MR. H. WHARTON AMERLING, of Philadelphia.

After referring to the many adulterations of food supplies, he recommended the appointment of a local Board of Health, the passage of laws governing this subject, and the appointment of a committee to establish a standard of purity for foods and medicines.

AFTERNOON SESSION.

The first paper was by DR. C. W. CHANCELLOR, of Baltimore:

HEREDITY, AND OTHER PECULIARITIES AFFECTING HEALTH AND LONGEVITY.

HYGIENE OF OLD AGE,

by DR. H. C. WOOD, of Philadelphia.

Leaving out of consideration, deaths from accident, fevers, lightning strokes, and other more or less preventable causes, the man who is so built that he is equally strong in all his parts, lives out his appointed days. Excessive strength in one part is a veritable source of danger. The athlete perishes because his over-developed muscular system perpetually strains, and finally wears out the heart or lung, which was originally constructed for a muscular apparatus, of half the power of that which is artificially built up. The large proportion of mankind die early, on account of some local weakness. Human age is not to be accounted by years. In some individuals, the general tissues are older at fifty, than in others at one hundred. Many of the cases of so-called neurasthænia and nerve exhaustion in men or women, with sudden or gradual breakdown at forty or fifty, apparently from overwork, are really cases of premature old age, and they are to be treated in precisely the same manner. A large proportion of early deaths are the result of some feeble organ being originally endowed with a longevity less than the rest of the organism.

The man who enjoys fair health at seventy-five has probably been built upon the principle of the famous "One-Horse Shay," described by our inimitable Holmes, and he should be treated as a wise man would treat such a venerable instrument of progression. The principle involved in such cases is that of protection, and especially, protection from strain of any feeble part. Exposure to inclement weather, especially to high winds, is injurious, by throwing a great strain upon the heart, and this may result in sudden death, or, if it does not, may lead to a fatal pneumonia. Emotional disturbance, as the sudden receipt of good news, may have a like result. Medicines that pertubate, and measures that bring relief, by inducing a violent local action, are to be avoided; at the same time, incipient disorders should, if possible, be arrested at once.

In regard to details, every old person should go over, with a wise counsellor, his whole method of living, and personal habits. The first question is in regard to food. The lost teeth should be replaced by artificial ones, to facilitate chewing, but even then, the food should be soft, easily comminuted, and readily digested. The food should not be of a stimulating character. Many old people are injured by too much nitrogenous food. Milk, and bread-stuffs cooked with milk, should form a large part of the diet of the aged individual. Excessive quantities of food should be avoided. Many old people are more comfortable, enjoy better health, and probably live longer, for the use of wine. The habitual use of wine in youth, or in middle age in vigorous health, is, I think, a harm, rather than a good; but when the powers of life are failing, when digestion is weak, and the whole system feeble, one or two glasses of generous wine at dinner, aids digestion, and quiets, for the time being, nervous irritation. The danger of the formation of any evil habits when a man is past seventy, is very slight, and no conscientious physician need hesitate in recommending the daily use of alcoholic beverages to his patient.

In many cases of death, the final result is due to cold, and the failure, on the part of the body, to keep itself warm. In the old, the heat-making functions are exceedingly low, and few old people are comfortable in a room, the temperature of which is lower than 80°, and abundance of warm, but light clothing, should be provided. There is no ordinary garment which compares, in heat-preserving power, with the buck-skin jacket, and every man beyond the age of seventy, should provide himself with such a garment. At first, it should be worn only out of doors, but later, it should form part of the habitual under-clothing. If worn as an under-jacket, it should be perforated. When there is a tendency to abdominal weakness, or to pendulous abdominal walls, a flannel bandage should be worn. The mechanical effects of an abdominal bandage in affording support to the abdominal organs and vessels, are well known.

DR. LAURENCE TURNBULL, of Philadelphia, in discussing the paper, referred to some of the causes of death in the aged. Too much exercise was one of these. When an old person, walking up an elevation, or against the wind, feels an oppression in his chest, or a

pain in his back, he should stop. Exposure to night air is bad for the aged, and often leads to bronchial catarrhs and pneumonia. At night, a night-cap should be worn in bed. Flannel underwear should also be worn. Exposure to the sun should be avoided in summer.

He agreed with the author of the paper in all points, with the exception of his recommendation of wine. If a stimulant is required at all, it should consist of alcohol and water in a definite mixture, rather than of wine, and withdrawn when the patient is able to take sufficient quantity of stimulating food. Old age is no protection to the temptations incident to our physical natures; rather does it weaken the resistance to these temptations, and more than one medical man can recall painful instances where a youth of probity, and a middle age of honor, has been darkened by an intemperate old age. Mr. Wickfield, in "David Copperfield," is by no means an unreal character in life.

(To be continued.)

THE AMERICAN LARYNGOLOGICAL ASSOCIATION.

The eighth annual meeting of the Association was held in the Hall of the College of Physicians, Philadelphia, May 27, 28, and 29, 1886.

The President, Dr. Harrison Allen, of Philadelphia, called the meeting to order at ten o'clock, and delivered the annual address.

Following the presidential address, a letter from the secretary of the Philadelphia College of Physicians, tendering to the Association the use of the Hall and the hospitalities of the college, was read. An invitation was also read, tendering to the members of the Association, the courtesies of the Union League Club, during their stay in the city.

The first paper was entitled

TWO INSTANCES OF ADENOID DISEASE OF THE ROOF OF THE PHARYNX, WHICH EXHIBITED UNUSUAL FEATURES,

by Dr. Harrison Allen, of Philadelphia.

The result of operations for the removal of adenoid tissue from the pharynx, is usually so excellent that the necessity for a repetition of the operation is said to be seldom met with.

The following cases were related as presenting certain points of interest.

Case I. A. B., age five years, much emaciated, without appetite, suffering with frequent attacks of indigestion, was sent to me in the latter part of January, 1884. Examination showed the roof of the mouth to be elevated, but the slightest attempt to depress the tongue was followed by gagging. The nostrils were filled with a mucoid discharge, and a small quantity of a similar discharge was seen in the fauces after gagging. During the day, the respiration was not exceedingly difficult, but at night it was greatly impeded. Almost directly after the child fell to sleep, respiration became labored. After three or four inhalations, breathing would cease, the child would open its mouth and make strenuous efforts to inspire; would then awaken and a forced inspiration ensue. It would then quickly fall to sleep and the same phenomena would recur, and in this manner the entire night would be passed. To these were occasionally added fits of crying and emesis. During an attack of whooping cough, the symptoms became much exaggerated and was associated with irregular action of the heart.

Hypertrophy of the adenoid tissue of the pharynx with unusual reflex phenomena was diagnosticated. On January 29, with the patient under ether, the operation for the removal of this tissue was performed. An attempt was made to break down the tissue with the finger, but the presence of the finger arrested respiration. Efforts were then made to rasp the growth away with an instrument passed through the nose, but in a short time the patient showed symptoms of depression and the operation was suspended. The pharynx was next seared with the hot wire. During the succeeding five weeks, applications of iodine and glycerine were made, but there was no evident improvement in the breathing at night. The patient was again etherized and the pharynx shown to be empty. Suspecting that the tonsils might be the cause of the difficulty a portion of each one was excised. Still no improvement followed. A third attempt to detect the cause of the difficulty was made, and it was determined positively that the nostrils were patulous. A careful examination showed that during sleep, the tongue fell backwards and that this was the essential condition. We then directed that when these attacks came on, the boy should be held with the face downwards. The moment this position was assumed, the child passed into a profound slumber. It was then so arranged that during the entire night, the patient should be watched, so that the tongue should not have an opportunity of falling back. This watching has been continued up to the present time. The boy prefers to lie upon his side, but when the attack comes on, turns on his face without awakening. He is now a strong and healthy boy.

Case II. A girl six years of age. The child was cyanotic at birth. When she came under observation the extremities were cold and of a bluish color, but no difficulty with the heart could be detected. The irritability of the pharynx was excessive. The patient had been twice operated on by other surgeons, and it was inferred that an attempt had been made to remove morbid tissue. The patient was etherized with great care and the entire nasal pharynx found to be much smaller than normal and its roof was highly arched in form. The posterior slope of the roof was the seat of an adenoid growth. Some portions of this were removed by the galvano-cautery passed through the nose. Some of the nodules at the lower border of the pharynx were removed with the scissors.

The patient was improved, and two weeks later she was again etherized and it was ascertained that all the nodules had been removed, but that the membrane at the roof of the mouth was exceedingly thick and tended to obstruct the passage of air. This was subjected to cauterization in several places. No further efforts were made to reduce the size of the membrane by operation and the patient was treated as a case of perverted nutrition of the osseous system. Iodine and glycerine were applied locally. Under this treatment gradual improvement in the nasal respiration took place and at the present time the child appears to be perfectly recovered.

DISCUSSION.

Dr. Franklin H. Hooper, of Boston. I have had only one case in which any accident followed the operation for removal of adenoid tissue. This was in

the case of a little girl eight years of age, of a neurotic temperament and very precocious. Nasal respiration had been obstructed and articulation had been defective since the age of three years. Hearing was also impaired. A large quantity of adenoid tissue was demonstrated. The removal of this was followed by great improvement in breathing and articulation. The breathing did not improve at once, but the use of the Politzer bag resulted in marked improvement. This had been previously tried without effect. From this time she began to grow nervous. Eight days after the restoration of hearing, she complained that she could not keep still. In a short time symptoms of chorea developed and gradually increased in intensity. The speech became affected and for over a month she was unable to speak. The chorea assumed an exceedingly severe form. She was unable to sleep. Various remedies were tried without benefit. Finally urethan was suggested. The use of this drug was followed by quiet sleep. Since this time the child has continued to improve and the chorea has now entirely disappeared.

DR. E. L. SHURLY, of Detroit. Where the galvanocautery is used, it has been said that there is considerable danger of the ether taking fire when this is used as the anæsthetic. I always use chloroform under such circumstances.

DR. S. W. LANGMAID, of Boston. In the case reported the interruption of respiration is an important point. In one case coming under my observation there was a period of thirty-five seconds between the respirations. In that case, the difficulty was relieved by the patient getting on his hands and knees. This corresponds with the case related. There must have been either a falling back of the tongue or some inhibitory action of the respiratory centre. The removal of the growth did away with the interruption of respiration. I am not aware that much has been said in regard to this interruption of respiration.

DR. CARL SEILER, of Philadelphia. One point with reference to adenoid growths in the roof of the pharynx is the effect upon singing voice. Dr. Bosworth, of New York, called my attention to the fact that different lines might be drawn on the roof of the pharynx corresponding to different notes of the scale. A swelling in a particular situation will interfere with the production of a certain note. A case illustrating this was seen by me a short time ago. A young lady could not reach the upper notes of the scale. I found a small adenoid growth which I removed with my finger. She is now able to reach every note with the greatest ease.

DR. HARRISON ALLEN, of Philadelphia. Dr. Hooper's case is an evidence of the way in which the adenoid growths may affect the entire system. His case is noteworthy in view of the fact that the phenomena appeared after the removal of the growth.

With regard to the use of ether, I have not been unaware of the danger, but by fanning the patient for a moment before using the cautery the vapor of the ether is removed, and I have experienced no difficulty. My early teachings have led me to be afraid of chloroform on account of its depressing effect upon the heart.

I have been unable to find on record a case similar to the first one narrated. Dr. Langmaid's case agrees with it in that the difficulty was relieved by change of position.

In a case similar to the one related by Dr. Seiler, I removed a small mass of adenoid tissue, and although the patient was able to reach the higher notes, she complained of the sensation of a large cavity in the situation from which the mass was removed.

DR. J. SOLIS COHEN then presented to the Society the following paper, which on invitation was read:

LUPUS OF THE THROAT,

by PROF. RAMON DE LA SOTA Y. LASTRA, M.D., of Seville, Spain.

The author referred to the difficulty of diagnosis which was experienced in many of these cases, and in illustration related the following: In 1884, I was consulted by a physician on account of an affection of the throat. The patient was much emaciated, reduced in strength, and with a clay-colored complexion. He was sixty years of age. The trouble with the throat had commenced one year previously. He was unable to take anything but milk and broths. The tongue was covered with psoriatic scales. The pharynx was lumpy and of a wine-red color. The right tonsil was the seat of an ulceration extending from the pyriform fossa below to the middle of the uvula and involving half that structure. Its borders were red and swollen, its surface lumpy and irregular and of a hard and elastic consistence. Some pain was produced by palpation, but no bleeding. There was no trouble while talking or on coughing. Liquids were swallowed without difficulty. Breathing was accomplished with perfect freedom. The sub-maxillary glands were swollen. The patient had suffered from rheumatism, but no history of syphilis could be obtained. Taking into consideration the history of the case and the age of the patient, I considered it an ulcerated epithelioma. This was concurred in by the patient's physician. Nevertheless mistrusting the testimony obtained, antisyphilitic medication with mercurials was tried; this occasioned such bad results that it was necessary to suspend it. He was then placed upon the use of iron and bitter tonics and such diet as he could take. The specific treatment was subsequently resumed, but the local lesion assumed such a bad aspect, that it became necessary to give up the treatment. From the fact that the ulceration was unattended by pain, I began to have some doubts as to its epitheliomatous nature. I next prescribed sodium arsenite in ascending doses, with a gargle of resorcin, and the use of iodoform on the ulcerated surface after it was washed with a solution of borax. For a month the ulceration continued to extend, and when I had lost all hope, it stopped its progress and became covered with healthy granulations. Cicatrization went on and was complete in three months. The scar is irregular, elevated and depressed, hard and soft, the posterior portion being adherent to the pharyngeal wall. The lingual psoriasis continued. Restoration to health has taken place. It is now eighteen months since the ulcer healed. With this result I concluded that the case was one of lupus.

My experience with this and other cases of lupus of the throat has led me to conclude that the disease may make its appearance at any period of life. I have seen it more frequently in adults than in children and more frequently in men than in women. I have been unable to obtain any information in regard to inheritance. I have not found that hard drinkers or smokers were more liable to suffer, nor have I found that great exertion of the voice or exposure to irritating substances,

located. The bicuspid was therefore taken out and an attempt made to draw the canine back. A frame extending around all the three molars and second bicuspid was made and used as the fixed point from which tension on the canine was exerted, but the canine remained stationary while all the teeth behind began to move forward. It was found necessary to have a plate attached to all the available teeth in the mouth to prevent the teeth from moving forward before the canine moved back. This is an extreme case as the root of a canine is deeply implanted, but it serves to illustrate this tendency in teeth which I am certain exists. We see it plainly in some of the lower animals, as in the elephant, who has a constant progression of the molars whereby the masticating surfaces are kept constantly renewed.

C.

RAPID SEPARATORS.

Numerous attempts have been made, from time to time, to produce an instrument for quickly separating the teeth, to prepare for filling. None of these attempts were successful. Recently, Dr. Bogue has devised a series of these instruments, which are of great value, as with them, enough space can be got in a few minutes to enable filling to be done without previous wedging, in the ordinary slow way.

DANGER FROM SMALL ARTIFICIAL PLATES.

Several cases of death from swallowing artificial plate, are mentioned in the journals for the past year. This shows how important it is to warn patients not to sleep with such appliances in their mouths.

AN ALL-PORCELAIN CROWN.[14]

The crown consists of a piece of keramic body baked to the shape of the crown, which has been lost by decay. Wires projecting above the roots, into which they are firmly fixed, are the means of holding the crown in position, as they project into a hollow in the crown, being fastened there with cement.

A BAND MATRIX.[15]

The matrix consists of a narrow and thin band of steel, of sufficient length to go three-quarters around a tooth. To use the matrix, it is bent around the tooth to be filled, and held in position by a small clamp, the ends of which go into holes in the ends of the band. By turning the screw in the clamp, the band is drawn tightly against the tooth, and held there.

FRACTURED TEETH.

The usual explanation of a fracture in a tooth, is to say that the tooth has received a blow. Redman [16] reports a case in which there was no history of a blow, nor, indeed, had the tooth any antagonistic tooth, so that it seems impossible to consider the fracture traumatic. In this case, the first symptom was severe pain, which lasted for two days. Then the tooth became loose, and was found, by the dentist, to be split in halves lengthwise.

AN IMPACTED TOOTH FROM A FALL.[17]

The patient, falling from a horse, drove the right upper lateral into the jaw, so that it could not be seen from the front. The tooth was grasped with thin forceps, drawn into place, and held with splints for four days, when it was firm enough to do without further treatment.

A NEW OPERATION FOR SALIVARY FISTULA.[18]

The fistula, which was caused by a stab, opened on the cheek, and had no communication with the mouth. Two needles, threaded on one fairly-strong piece of silk, were successfully passed through the fistula into the mouth, piercing the buccal membrane one-quarter of an inch apart; the ends were firmly tied, inclosing a portion of the duct, and the surrounding tissues. The internal wound healed in a few weeks, and the saliva found its way into the mouth, as usual.

ACCIDENTS IN TOOTH EXTRACTION.

At the December meeting of the Odont. Society of Great Britain, MacCormac related a case in which, during the extraction of a tooth, the forceps broke, and one blade disappeared. The patient immediately became "black" in the face, and almost suffocated. These symptoms gradually disappeared, and at the end of six weeks, there was no great cause for anxiety, though she suffered from pain on the right side of the sternum, spasmodic cough, and bloody expectoration; so it was decided to open the wind-pipe. Through this, in opening the end, the broken blade could be felt, five inches below, in the right bronchus. The fragment was removed, the patient making a good recovery. As the forceps were made by Evrard, the most distinguished maker who has ever lived, there is no reason to think that they were not as perfect as possible. The case, therefore, shows the importance of guarding the throat in tooth extraction. A case occurring in my practice, shows one other danger, which has never been mentioned. In an attempt to extract an upper bicuspid, the forceps slipped, and closing just as it reached the lip, it took a piece of this between the blades and severed it entirely, thus causing a permanent scar. As there is no use in having the blades of forceps with sharp-cutting edges, which come in contact, this very common form ought to be discarded.

PREPARING FOR THE ERUPTION OF THE FIRST PERMANENT MOLARS.

These teeth usually erupt when a child is six years old. They almost always decay, either during eruption, or shortly afterward. Until the eruption of the bicuspids, five years later, the anterior surfaces of these teeth are in contact with the first, or temporary molars. It is a well-established fact, that contact between teeth will result in decay in most mouths. As the temporary molars are to remain in the mouth for a few years only, there is no objection to so cutting away the posterior surfaces of these teeth, so as to give as small a contact as possible between them and the first permanent molars. A dentist should always see a child shortly after the age of five years, in order that this treatment may be carried out before the permanent teeth erupt, because after this, it is difficult to properly do the extensive cutting without injury to the permanent tooth, whose enamel is always soft at first. If it were possible to grind away the backs of the temporary molars, and thus prevent the permanent ones from ever touching them, the danger of decay would be slight, but there is a peculiar tendency in teeth, which has not been properly explained, or, so far as I am aware, noticed; this is the tendency which they

[14] Howland in Ind. Pract., p. 137, 1886.
[15] Guilford in Dent. Cosmos, p. 138, 1886.
[16] Brit. Jour. of Dental Science, p. 715, 1885.
[17] Tomes in Brit. Jour. of Dental Science, January 15, 1886.
[18] Hodgson in Dent. Cosmos, November, 1885.

show to move toward the front of the mouth. I shall speak of this later, under the head of "Progression in Teeth." It is due to this tendency, that it is not practical, in most cases, to maintain perfectly free spaces in the positions named.

The best one can do, is to grind the backs of the temporary molars, so that they shall only touch the permanent teeth at small points near the grinding surfaces, for here, contact will do the least harm: first, because the enamel is strongest there; and second, because, if decay should begin, it can be more easily managed than at any other point on the approximal surfaces. Without a figure, it is not easy to explain the shape this preventive trimming should make the teeth.

FATAL HÆMORRHAGE FROM TOOTH EXTRACTION.[19]

Patient, aged twenty-two, was admitted to the hospital for chronic synovitis of right knee, caused by a blow. Ten weeks after this, an aching lower molar was extracted. The bleeding ceased in a few minutes, but soon returned so profusely, that it was necessary to plug the socket. The bleeding continued, without interruption, for seven days, when the patient died. Just before death, the temperature had risen to 102.6° F. All known styptics were tried. Stimulants were given at short intervals. As a similar case, in which transfusion was used, was given in my report for 1884, in which the patient recovered, after he had become practically dead, it seems worth while to speak of this again, as this treatment did not seem to have occurred to the medical men who had this case in charge.

(To be continued.)

Reports of Societies.

PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

C. M. GREEN, M.D., SECRETARY.

ANNUAL MEETING, April 24, 1886, the President, DR. GEORGE B. SHATTUCK, in the chair.

DR. A. L. MASON reported two cases of

HYPERTROPHIC CIRRHOSIS OF THE LIVER.[1]

DR. J. R. CHADWICK reported some cases of

ATRESIA OF THE GENITAL CANAL.[2]

DR. J. W. FARLOW said that the evidence of the stomach having been perforated by the trocar in Dr. Chadwick's last case was unmistakable. As soon as anything was taken by the stomach it appeared at the trocar. In subsequent microscopic examinations of the discharges from the canula there were found meat fibres and fat globules from milk: medicines also escaped, and there was a strong odor of gastric juice in all that came away. The patient's excessive diarrhœa was accompanied with an enormous appetite, which of itself would dilate the stomach. It is also probable that adhesions formed between the stomach and the abscess which served to drag the stomach down, especially after the evacuation of the abscess. It is strange that there was no indigestion, pain, or vomiting, as the result of the condition of the abdominal organs.

Dr. Farlow also related the following case, similar to one of those which Dr. Chadwick had just reported:

Mrs. M., aged 34, was married the first time seven years, and the second time two years. The catamenia have never appeared. Every month since the age of seventeen she has had severe abdominal cramps as if she were to menstruate. This pain has been more marked on the left side, and for the last year or more has been so severe that she has taken morphine for its relief. Sexual feeling has been present and coitus has not been painful. The labia majora, minora, and clitoris, in fact, the whole external genitals were normal, except a slight dilatation of the meatus urethræ. The vagina was a blind pouch one and a half inches long: nothing could be felt at the end but a small, hardish mass. Per rectum, I made out a hard nodule the size of a bean and on either side some small kernels, probably a rudimentary uterus and ovarian tissue. The patient said her first husband had made no complaint of her condition, but the second husband was not so well pleased.

DR. A. N. BLODGETT said that the case last described by Dr. Chadwick presented a most remarkable series of phenomena. The existence of an abscess of these colossal proportions in the parieties of the abdomen is in itself not a common occurrence. The communication of the abscess cavity with the intestinal canal is not so rare. The great feature which must excite astonishment is the surprising result of the vaginal puncture. It is doubtful if another instance can be found in the records of surgery in which the stomach has been drained through the vagina. The fact that a gastro-vaginal fistula can exist without at once destroying the life of the patient may be explained in the following way: the existence of an abscess of the magnitude of the one described in the present case must have excited a certain amount of inflammatory action in the surrounding tissues, and no doubt the peritoneal covering of the various visceral organs in the vicinity was also the seat of adhesive inflammation; this is often observed, as the result of inflammatory action in the vicinity, in which the organs become firmly united to one another and to the abdominal parieties. If this had occurred in this case, it might easily happen that the stomach would be drawn downward by the draining of the cavity of the abscess with the wall of which it was in firm contact, and the trocar, inserted into the cavity of the abscess, would easily penetrate the septum between the abscess and the stomach, and thus the contents of the stomach would at once appear in the vaginal drain. There seems to be no other satisfactory way in which to account for the innocent result in this case. It would be thought impossible to open the stomach from below, upon an unattached portion of its surface, by a puncture from the vagina, in the direction of the length of the body, without injuring important organs, the result of which would in itself be very grave: when we think, however, of the almost inevitable invasion of the abdominal cavity with the contents of the stomach, and the fatal result of this accident, we must, I think, come to the conclusion that the general cavity of the peritoneum was not opened by the trocar; but that the adhesion of the stomach to the neighboring organs and structures had shut off or obliterated the peritoneal space at this point, and thus averted what in all human probability must otherwise have been a fatal result.

INCIDENTAL BUSINESS.

The Treasurer submitted his annual report, showing the income of the Society to have been $734.35, and the

[1] Publication necessarily deferred. [2] See page 505.

[19] Albert, Dental Record, p. 85, 1886.

expenditures $524.75, leaving in the treasury $209.60. The Publishing Fund now amounts to $181.98.

The Committee on Social Meetings reported that there had been collected during the past year for the use of the Committee $197.50; the amount on hand at the last annual meeting was $58.73, and during the year $64.73 had been expended. The unexpended balance, $191.50, will more than suffice for the ensuing year.

PROPOSED AMENDMENT TO THE BY-LAWS.

DR. A. B. MORONG submitted the following amendment to by-law XV., the same to be an addition to the present by-law, to wit:

In making nominations for the offices of the Society in 1887 and each subsequent year until otherwise ordered, the nominating committee shall not nominate any member who has held any office in this Society for two consecutive years immediately preceding the year for which such nomination is made. Nominations for Treasurer, Secretary, and Librarian are excepted from this restriction.

Action on this proposed amendment will be taken at the next stated meeting in October.

ELECTION OF OFFICERS.

The Nominating Committee presented its report. Dr. J. R. Chadwick declined to be a candidate for the office for which he had been nominated, and Dr. A. H. Nichols was named in his place. Ballots then having been given in, it appeared that the following officers had been duly elected:

President, George B. Shattuck; *Vice-President*, John Homans; *Secretary*, Herbert L. Burrell; *Treasurer*, Edward M. Buckingham; *Librarian*, B. Joy Jeffries; *Commissioner of Trials*, Charles W. Swan; *District Nominating Committee*, Hasket Derby; *Committee of Supervision*, Arthur H. Nichols, Albert N. Blodgett; *Committee on Social Meetings*, Morton Prince, Vincent Y. Bowditch, Harold Williams, Frank B. Harrington; *Censors*, Elbridge G. Cutler, Thomas M. Rotch, Frederick C. Shattuck, Francis H. Williams, Charles M. Green; *Councillors*, S. L. Abbot, J. Ayer, H. J. Bigelow, C. J. Blake, J. G. Blake, H. I. Bowditch, E. H. Bradford, A. T. Cabot, D. W. Cheever, H. Curtis, H. Derby, O. W. Doe, F. W. Draper, S. H. Durgin, T. Dwight, R. T. Edes, R. H. Fitz, C. F. Folsom, M. F. Gavin, G. W. Gay, J. O. Green, F. B. Greenough, W. H. H. Hastings, R. M. Hodges, C. D. Homans, J. Homans, W. Ingalls, B. J. Jeffries, F. I. Knight, S. W. Langmaid, M. B. Leonard, G. H. Lyman, A. E. McDonald, F. Minot, C. B. Porter, J. P. Reynolds, W. L. Richardson, G. C. Shattuck, B. S. Shaw, A. D. Sinclair, A. M. Sumner, C. W. Swan, G. G. Tarbell, O. F. Wadsworth, J. C. Warren, T. Waterman, W. G. Wheeler, J. C. White, E. N. Whittier, H. W. Williams.

PENNSYLVANIA STATE SANITARY CONVENTION UNDER THE AUSPICES OF THE STATE BOARD OF HEALTH.

THE first session of the convention was opened at McCaul's Opera House, Philadelphia, Wednesday, May 12, 1886.

The meeting was called to order by WILLIAM PEPPER, M.D., of Philadelphia. In opening the session the President referred to the great importance of such meetings and to the necessity for education of the public to the vital importance of attention to sanitary matters.

GOVERNOR PATTISON was then introduced and gave a *résumé* of the sanitary work of past ages, and referred to the stress laid upon hygienic sanitation by the ancients, more particularly with reference to the Mosaic laws and Rome. In concluding, he said that no community with well-organized sanitary arrangements need be alarmed at the appearance of a pestilential disease, for they have at hand the means to at once control it.

The first paper of the morning was entitled:

AN EPIDEMIC OF DIPHTHERIA TRACED TO ITS SOURCE,

by BENJAMIN LEE, M.D., Secretary, Pennsylvania State Board of Health.

He described the epidemic of diphtheria which occurred in the city of Pittsburgh in 1877. The outbreak of the disease was confined to one portion of the city known as the south side. The mortality rate ran up from zero in June to 92 in August and 267 in October. During the seven months immediately preceding the outbreak there were only 35 deaths. The first cases occurred in immediate proximity to the Washington Street sewer. The street sewers were unprovided with drops. A portion of the south side is situated on a steep hill up which the sewer extends, and seemed to act as a ventilator for the one on the level. Examination of the sewers showed that they were filled to a depth of from one to three feet with deposits of filth, which on account of the slight fall of the main sewer could not be washed out. This condition had existed for years. What was the spark that exploded the mine? Prior to the outbreak there was a series of heavy rain storms, filling the sewers to overflowing. The effect of this was to force sewer gas into the dwellings. In many of the dwellings in connection with the Washington Street sewer there were not provided either traps or ventilators. To these conditions the outbreak causing the death of four hundred children was clearly attributable.

In discussing the paper the REV. GEORGE B. STROUD remarked that the whole system of drainage was a mistake. The only remedy is to wipe out the whole system. He thought that it would be advisable to substitute earth-closets, and destruction of foul matters with fire. The removal by water has proven unsatisfactory.

DR. CROSBY GRAVES, Health Officer of Pittsburgh, stated that the Washington Street sewer had never been intended for sewerage purposes. It was intended for drainage purposes only; since the epidemic referred to, some improvements had been made.

NECESSITY FOR PHYSICAL EDUCATION,

by CARL H. HORSH, M.D., of Dover, N.H.

Rightly applied physical exercise is of great assistance in digestion and especially in improving the tone of the nervous system. The best results are attained by outdoor exercise.

TESTS FOR ORGANIC IMPURITIES IN WATER,

by HENRY F. FORMAD, M.D., of Philadelphia.

One of the best tests for purity of drinking-water is the health of the community. It has been established that many diseases are communicated through the drinking-water, particularly is this the case in such dis-

cases as cholera, and typhoid fever. It is therefore desirable to be able to have a method by which to determine the presence of organic matters. Up to the present time the methods have been purely chemical. The quantity by this method can be estimated, but its quality, whether living or dead, cannot be determined by this method. In this mode skilful manipulation and complicated apparatus are required.

The speaker then called attention to the biological or mycological test. Water contains living matter of different kinds; some is very useful, some is harmless, while another portion is exceedingly dangerous. The presence of these bacteria in large quantities in water indicates a large quantity of organic matter. They exist directly in proportion to the quantity of organic matter.

He then described the experiments made by himself and Dr. Allen Smith, his assistant. The methods employed are simple and can be used by any one. They consisted in making cultures with the water to be tested. The culture mediums have been sterilized gelatine and sterilized potato. Comparisons with water contaminated with a certain definite amount of sewerage, it was found that in the proportion of 1–5000, the presence of sewerage may be shown by the development of the micrococci. The speaker stated that he had found a micrococcus presenting peculiar appearance always present in water contaminated with sewage.

DR. VAUGHAN, of Ann Arbor, Mich., asked if it were not possible for water to be contaminated with the products of bacteria contained in the soil, while the water itself may not present bacteria? Also, whether the special micrococcus found in sewerage was harmful or not.

DR. FORMAD in reply stated that a few experiments seemed to indicate that this particular bacterium is not injurious. He thought that water might be contaminated with organic matter other than bacteria.

AFTERNOON SESSION. — IMPORTATION OF FOREIGN RAGS INTO AMERICAN PORTS,

by F. S. WILSON, M.D., Lazaretto, Physician.

The question of the importation of rags has been thrown on the local boards of health. The rags certainly afford an excellent breeding-place for germs. The speaker thought the proper plan would be to have the rags properly disinfected before being shipped. A still better plan would be the reduction of the rags to pulp before being shipped. Disinfection after reaching this country is a matter of great labor and expense.

In reference to the extent of the trade in rags it was stated that 1,659,347 pounds of rags valued at $48,596 were annually imported. The health of the people is of more importance than commercial interests. This question of the importation of rags is a matter for present consideration.

MR. WM. TAYLOR, Health Commissioner of Boston, stated that all rags have to be disinfected after arrival in Boston, and under the supervision of the Board of Health. This rule applies to all cargoes of rags, no matter whether or not disinfection has been practised before leaving the other side. The Boston Board of Health had been led to this action by finding that no reliance was to be placed on certificates of disinfection. The process employed is by superheated steam. It is better to exclude all rags than to have one case of disease from their introduction. A close watch should be kept on the whole coast, and everything should be done to guard the people of the United States against these diseases.

DR. A. N. BELL, of New York, stated that of all articles of commerce, rags are the most dangerous. Some sixty years ago in New York, rags were not admitted at all during the hot weather; the rule being that rags arriving during the summer should be kept on the ships or in storehouses until winter. As a result, no captain would bring a cargo of rags in the summer. Evidence is not wanting of the carrying of cholera and other diseases in rags. It has been claimed that the rags are cleaned before being shipped, but this is offset by the fact that the first process to which they are subjected in the paper mills is cleaning by heating in which fifteen per cent. of the weight is lost. Again it is not uncommon to find old poultice rags from hospitals in the bales of rags. Not only are rags dangerous, but ships trading with infected districts become infected and even if disinfection is practised before shipment, reinfection may take place. In regard to the process of disinfection, he regarded the method by super-heated steam as the best and is efficacious. The use of steam in this way is not injurious to the fabric. Dr. Bell moved that the plan employed by the Boston Board of Health be indorsed by the Convention, and recommended for introduction to all Boards of Health in the United States. This was adopted.

The following telegram from Dr. S. H. Durgin, Chairman of the Boston Board of Health, was read by the Secretary: —

BOSTON, MASS., May 14, 1886.

DR. LEE, *Secretary Sanitary Convention, Philadelphia.*

The copy of rag resolution adopted by your convention is received. The prompt notice is evidently intended as a compliment to the Boston Board of Health, of which I am the senior member. Being unwilling to accept any part of a compliment which does not belong to me, I therefore beg to say to your convention, through you, that the regulation in question, which requires that all imported rags be subjected to the patent steam process on arrival in this country, never has had and never will have my approval.

S. H. DURGIN, M.D.

DR. D. W. JEFFRIES, of Chester, read a paper on

HEATING AND VENTILATION OF PUBLIC SCHOOL BUILDINGS,

describing the Ruttan system of ventilation as applied to the High School at Chester.

ECONOMIC SANITATION,

by DR. ALBERT L. GIHON, Medical Director of the United States Navy.

Good sanitary work costs a great deal. The amounts appropriated for this work were entirely insufficient. A small sum of money properly expended might often prevent outbreaks of disease. The expenditure of $20,000 might have prevented the small-pox epidemic of 1872, which caused the loss of $25,000,000. Hog cholera becomes a matter of international treaty, but diphtheria might decimate a community and the Health Officer be left to his own resources.

NARCOTIC APPETITES,

was the title of a paper read by DR. J. LOURY SIBBETT, of Carlisle, Pa. This was followed by a paper on

OUR DRUGS AND MEDICINES,

by L. Wolff, M.D., Philadelphia.

An examination of drugs, made in this country were as a rule, of high character. Retail druggists have been accused of adulterating drugs but this accusation has been shown to be false. Only physicians, druggists and their assistants should be permitted to handle medicines. The manufacture of patent medicines should be restricted to qualified persons.

The evening session was devoted to the consideration of the First Annual Address, delivered by Hon. Erastus Brooks, of West New Brighton, N. J. His subject was

THE OBLIGATION OF STATES AND CITIZENS TO PRESERVE THE HEALTH OF THE PEOPLE.

He showed that the state would be comparatively powerless without the aid of citizens. He insisted that public health was public wealth, and that careful sanitation was true economy. The ignorance of the people in regard to the importance of these matters was illustrated by a reference to the opposition to vaccination in Canada, during the prevalence of small-pox. He referred to the great importance of supplying pure drinking water to the community.

After extending a vote of thanks to the reader of the paper, the convention adjourned to Thursday morning.

SECOND DAY.— MORNING SESSION.

PHYSIC TIPPLING AND MEDICINE BIBBING,

was the title of the first paper read, by Dr. Frank Woodbury, of Philadelphia.

"The object of this paper," said Dr. Woodbury, "is to direct public attention to a habit which has insidiously crept into our life as a people, and which in my estimation has attained sufficient proportions to warrant consideration at such a conference as this. The bromides only a few years ago were but little used; now it is estimated that at least two hundred tons are used every year in this country alone. Of chloral hydrate one ton a day is consumed in America and England. Nor will I speak of the vast amounts of the preparations of cinchona, of opium and of mercury, or of the alkalies, iodides, and digestive ferments which flow in a steady current from the stills of our manufacturing pharmacists down the throat of a confiding community. Why is it that civilized man in the nineteenth century consumes larger quantities of narcotic drugs — morphine, chloral, bromides, ether and chloroform — than his forefathers? Can we not see abundant evidence of the bad effects of over-medication in the weakened digestion and impressionable nervous system which have become almost universally recognized as characteristic of American life? Among the causes for the enormous drug trade in this country, is to be counted undoubtedly the overcrowding of the medical profession. Thousands of half-educated or entirely uneducated men, furnished with cheap diplomas, have been set loose to prey upon the community, and drug stores have sprung up at nearly every corner. But this is not all. The patent medicine advertisements warn us that hundreds of thousands of dollars are spent annually in the effort to induce our fellow citizens to purchase and consume medicines which otherwise they would not buy. Another reason for the extraordinary demand for medicine has its roots in the minds of the people. They are impatient and illogical. A large proportion of this community is suffering from indigestion in some form or other. They keep on eating and drinking the very things which make them sick and then call upon the druggists for aid. The growth within a few years of the demand for digestive ferments is astonishing. Pepsin and pancreatine in various forms, constitute a large proportion of the daily sales of city druggists. If the pepsin is introduced into the mouth our stomachs will naturally cease to secrete it, and consequently, according to physiological law, will lose the function. One fourth of all the children born in civilized countries die before they reach the fifth year, and the proportion is greater in large cities. Among the recognized causes of weakened vitality in children, I wish to place the abuse by parents of medicines acting on the nerves, and especially alcohol, tobacco, opium, chloral and the bromides. As sanitarians, we would teach the public that they should bear with patience the ills that flesh is heir to, that disease is very largely affected by mental states, and that physical troubles are made greater by thinking of them. Medicine is a two-edged sword, and if capable of doing good is also capable of doing harm. Physic tippling and medicine bibbing is simply a form of intemperance. The taking of medicine is a matter of grave importance and should only be done by competent medical advice, and should not be continued longer than the emergency demands. In conclusion, for the purpose of checking this evil, I should recommend,

1. The examination of all proprietary medicines by a Government or State commission of experts, who shall have power to permit the sale of such as are harmless or especially likely to prove serviceable, and to prohibit the sale of all which are particularly liable to do injury and those which are found to be worthless and frauds upon the public. Such a commission was appointed by the Japanese Government several years ago, and has been found to be of great service in that country.

2. The instruction of the public to properly estimate drugs and to regard every unknown medical agent as dangerous and endowed with capacity for harm. Let them endeavor to escape the caustic criticism of Molière upon those who pour medicine, about which they know little, into bodies about which they know less, in order to cure disease about which they know nothing at all.

CONTINUOUS PREVENTIVE DISINFECTION OF HOUSE-DRAINAGE,

by Henry Hartshorne, M.D., of Philadelphia.

The speaker referred to the epidemic of diphtheria and croup in Detroit, in which Mr. Wight, the Health Officer, had placed in the sewers 275,000 pounds of sulphate of iron, and had burned in them under cover, three tons of sulphur. The gas from this passed through the whole system of sewers. Immediately following this procedure, there was a marked diminution in the death rate, and in fact an almost total cessation. It has been asserted that sulphate of iron and sulphurous acid have no effect upon bacteria unless in strong solution. The method in which these agents act is uncertain. Koch believes that the effects of bacteria are the result of the poisonous products which they give rise to. It may be that a chemical agent which has no especial effect upon micrococci, bacteria or spirilla will yet antagonize or decompose the poisonous material which they produce.

We need to destroy or purify all filth on which these germs live and multiply, and to destroy the germs, or antagonize the poisonous materials. Many agents are useful for this purpose. They are, as a rule, applied fitfully. They should be employed continuously. Dr. Hartshorne then described an apparatus which accomplishes this purpose. This may be attached to any water-closet, and from it, a strong solution of chloride of zinc flows continuously into the bowl, at the rate of twenty drops per minute. This prevents any chance for decomposition of the fæces. With this arrangement, the traps cannot become dry. The chloride of zinc has no injurious effect upon the iron or zinc. The speaker thought that cess-pools should be done away with, and water-closets with this apparatus and with sewer attachments, should be substituted. This would make disease infection almost impossible. Diphtheria and typhoid fever would almost entirely disappear, and cholera, if it visited this country, would pass us by.

DR. HUGH HAMILTON, of Harrisburg, read a paper on the

RELATIONS WHICH THE TOPOGRAPHY OF HARRISBURG, PA., BEARS TO ITS DRAINAGE AND SEWERAGE.

DR. V. C. VAUGHAN, of Ann Arbor, Mich., described

THE CHARACTERISTICS OF HEALTHY DWELLINGS, PARTICULARLY FOR THE WORKING CLASSES.

THE MAJESTY OF THE LAW OF SANITATION,

was the title of the address of REV. J. ANDREWS, of Chestnut Hill, Pa.

The last paper of the morning session was

ON THE MEANS OF ELEVATING THE STANDARD OF SUPPLIES,

by MR. H. WHARTON AMERLING, of Philadelphia.

After referring to the many adulterations of food supplies, he recommended the appointment of a local Board of Health, the passage of laws governing this subject, and the appointment of a committee to establish a standard of purity for foods and medicines.

AFTERNOON SESSION.

The first paper was by DR. C. W. CHANCELLOR, of Baltimore:

HEREDITY, AND OTHER PECULIARITIES AFFECTING HEALTH AND LONGEVITY.

HYGIENE OF OLD AGE,

by DR. H. C. WOOD, of Philadelphia.

Leaving out of consideration, deaths from accident, fevers, lightning strokes, and other more or less preventable causes, the man who is so built that he is equally strong in all his parts, lives out his appointed days. Excessive strength in one part is a veritable source of danger. The athlete perishes because his over-developed muscular system perpetually strains, and finally wears out the heart or lung, which was originally constructed for a muscular apparatus, of half the power of that which is artificially built up. The large proportion of mankind die early, on account of some local weakness. Human age is not to be accounted by years. In some individuals, the general tissues are older at fifty, than in others at one hundred. Many of the cases of so-called neurasthænia and nerve exhaustion in men or women, with sudden or gradual breakdown at forty or fifty, apparently from overwork, are really cases of premature old age, and they are to be treated in precisely the same manner. A large proportion of early deaths are the result of some feeble organ being originally endowed with a longevity less than the rest of the organism.

The man who enjoys fair health at seventy-five has probably been built upon the principle of the famous "One-Horse Shay," described by our inimitable Holmes, and he should be treated as a wise man would treat such a venerable instrument of progression. The principle involved in such cases is that of protection, and especially, protection from strain of any feeble part. Exposure to inclement weather, especially to high winds, is injurious, by throwing a great strain upon the heart, and this may result in sudden death, or, if it does not, may lead to a fatal pneumonia. Emotional disturbance, as the sudden receipt of good news, may have a like result. Medicines that pertubate, and measures that bring relief, by inducing a violent local action, are to be avoided; at the same time, incipient disorders should, if possible, be arrested at once.

In regard to details, every old person should go over, with a wise counsellor, his whole method of living, and personal habits. The first question is in regard to food. The lost teeth should be replaced by artificial ones, to facilitate chewing, but even then, the food should be soft, easily comminuted, and readily digested. The food should not be of a stimulating character. Many old people are injured by too much nitrogenous food. Milk, and bread-stuffs cooked with milk, should form a large part of the diet of the aged individual. Excessive quantities of food should be avoided. Many old people are more comfortable, enjoy better health, and probably live longer, for the use of wine. The habitual use of wine in youth, or in middle age in vigorous health, is, I think, a harm, rather than a good; but when the powers of life are failing, when digestion is weak, and the whole system feeble, one or two glasses of generous wine at dinner, aids digestion, and quiets, for the time being, nervous irritation. The danger of the formation of any evil habits when a man is past seventy, is very slight, and no conscientious physician need hesitate in recommending the daily use of alcoholic beverages to his patient.

In many cases of death, the final result is due to cold, and the failure, on the part of the body, to keep itself warm. In the old, the heat-making functions are exceedingly low, and few old people are comfortable in a room, the temperature of which is lower than 80°, and abundance of warm, but light clothing, should be provided. There is no ordinary garment which compares, in heat-preserving power, with the buck-skin jacket, and every man beyond the age of seventy, should provide himself with such a garment. At first, it should be worn only out of doors, but later, it should form part of the habitual under-clothing. If worn as an under-jacket, it should be perforated. When there is a tendency to abdominal weakness, or to pendulous abdominal walls, a flannel bandage should be worn. The mechanical effects of an abdominal bandage in affording support to the abdominal organs and vessels, are well known.

DR. LAURENCE TURNBULL, of Philadelphia, in discussing the paper, referred to some of the causes of death in the aged. Too much exercise was one of these. When an old person, walking up an elevation, or against the wind, feels an oppression in his chest, or a

pain in his back, he should stop. Exposure to night air is bad for the aged, and often leads to bronchial catarrhs and pneumonia. At night, a night-cap should be worn in bed. Flannel underwear should also be worn. Exposure to the sun should be avoided in summer.

He agreed with the author of the paper in all points, with the exception of his recommendation of wine. If a stimulant is required at all, it should consist of alcohol and water in a definite mixture, rather than of wine, and withdrawn when the patient is able to take sufficient quantity of stimulating food. Old age is no protection to the temptations incident to our physical natures; rather does it weaken the resistance to these temptations, and more than one medical man can recall painful instances where a youth of probity, and a middle age of honor, has been darkened by an intemperate old age. Mr. Wickfield, in "David Copperfield," is by no means an unreal character in life.

(To be continued.)

THE AMERICAN LARYNGOLOGICAL ASSOCIATION.

THE eighth annual meeting of the Association was held in the Hall of the College of Physicians, Philadelphia, May 27, 28, and 29, 1886.

The President, DR. HARRISON ALLEN, of Philadelphia, called the meeting to order at ten o'clock, and delivered the annual address.

Following the presidential address, a letter from the secretary of the Philadelphia College of Physicians, tendering to the Association the use of the Hall and the hospitalities of the college, was read. An invitation was also read, tendering to the members of the Association, the courtesies of the Union League Club, during their stay in the city.

The first paper was entitled

TWO INSTANCES OF ADENOID DISEASE OF THE ROOF OF THE PHARYNX, WHICH EXHIBITED UNUSUAL FEATURES,

by DR. HARRISON ALLEN, of Philadelphia.

The result of operations for the removal of adenoid tissue from the pharynx, is usually so excellent that the necessity for a repetition of the operation is said to be seldom met with.

The following cases were related as presenting certain points of interest.

CASE I. A. B., age five years, much emaciated, without appetite, suffering with frequent attacks of indigestion, was sent to me in the latter part of January, 1884. Examination showed the roof of the mouth to be elevated, but the slightest attempt to depress the tongue was followed by gagging. The nostrils were filled with a mucoid discharge, and a small quantity of a similar discharge was seen in the fauces after gagging. During the day, the respiration was not exceedingly difficult, but at night it was greatly impeded. Almost directly after the child fell to sleep, respiration became labored. After three or four inhalations, breathing would cease, the child would open its mouth and make strenuous efforts to inspire; would then awaken and a forced inspiration ensue. It would then quickly fall to sleep and the same phenomena would recur, and in this manner the entire night would be passed. To these were occasionally added fits of crying and emesis. During an attack of whooping cough, the symptoms became much exaggerated and was associated with irregular action of the heart.

Hypertrophy of the adenoid tissue of the pharynx with unusual reflex phenomena was diagnosticated. On January 29, with the patient under ether, the operation for the removal of this tissue was performed. An attempt was made to break down the tissue with the finger, but the presence of the finger arrested respiration. Efforts were then made to rasp the growth away with an instrument passed through the nose, but in a short time the patient showed symptoms of depression and the operation was suspended. The pharynx was next seared with the hot wire. During the succeeding five weeks, applications of iodine and glycerine were made, but there was no evident improvement in the breathing at night. The patient was again etherized and the pharynx shown to be empty. Suspecting that the tonsils might be the cause of the difficulty a portion of each one was excised. Still no improvement followed. A third attempt to detect the cause of the difficulty was made, and it was determined positively that the nostrils were patulous. A careful examination showed that during sleep, the tongue fell backwards and that this was the essential condition. We then directed that when these attacks came on, the boy should be held with the face downwards. The moment this position was assumed, the child passed into a profound slumber. It was then so arranged that during the entire night, the patient should be watched, so that the tongue should not have an opportunity of falling back. This watching has been continued up to the present time. The boy prefers to lie upon his side, but when the attack comes on, turns on his face without awakening. He is now a strong and healthy boy.

CASE II. A girl six years of age. The child was cyanotic at birth. When she came under observation the extremities were cold and of a bluish color, but no difficulty with the heart could be detected. The irritability of the pharynx was excessive. The patient had been twice operated on by other surgeons, and it was inferred that an attempt had been made to remove morbid tissue. The patient was etherized with great care and the entire nasal pharynx found to be much smaller than normal and its roof was highly arched in form. The posterior slope of the roof was the seat of an adenoid growth. Some portions of this were removed by the galvano-cautery passed through the nose. Some of the nodules at the lower border of the pharynx were removed with the scissors.

The patient was improved, and two weeks later she was again etherized and it was ascertained that all the nodules had been removed, but that the membrane at the roof of the mouth was exceedingly thick and tended to obstruct the passage of air. This was subjected to cauterization in several places. No further efforts were made to reduce the size of the membrane by operation and the patient was treated as a case of perverted nutrition of the osseous system. Iodine and glycerine were applied locally. Under this treatment gradual improvement in the nasal respiration took place and at the present time the child appears to be perfectly recovered.

DISCUSSION.

DR. FRANKLIN H. HOOPER, of Boston. I have had only one case in which any accident followed the operation for removal of adenoid tissue. This was in

the case of a little girl eight years of age, of a neurotic temperament and very precocious. Nasal respiration had been obstructed and articulation had been defective since the age of three years. Hearing was also impaired. A large quantity of adenoid tissue was demonstrated. The removal of this was followed by great improvement in breathing and articulation. The breathing did not improve at once, but the use of the Politzer bag resulted in marked improvement. This had been previously tried without effect. From this time she began to grow nervous. Eight days after the restoration of hearing, she complained that she could not keep still. In a short time symptoms of chorea developed and gradually increased in intensity. The speech became affected and for over a month she was unable to speak. The chorea assumed an exceedingly severe form. She was unable to sleep. Various remedies were tried without benefit. Finally urethan was suggested. The use of this drug was followed by quiet sleep. Since this time the child has continued to improve and the chorea has now entirely disappeared.

DR. E. L. SHURLY, of Detroit. Where the galvanocautery is used, it has been said that there is considerable danger of the ether taking fire when this is used as the anæsthetic. I always use chloroform under such circumstances.

DR. S. W. LANGMAID, of Boston. In the case reported the interruption of respiration is an important point. In one case coming under my observation there was a period of thirty-five seconds between the respirations. In that case, the difficulty was relieved by the patient getting on his hands and knees. This corresponds with the case related. There must have been either a falling back of the tongue or some inhibitory action of the respiratory centre. The removal of the growth did away with the interruption of respiration. I am not aware that much has been said in regard to this interruption of respiration.

DR. CARL SEILER, of Philadelphia. One point with reference to adenoid growths in the roof of the pharynx is the effect upon singing voice. Dr. Bosworth, of New York, called my attention to the fact that different lines might be drawn on the roof of the pharynx corresponding to different notes of the scale. A swelling in a particular situation will interfere with the production of a certain note. A case illustrating this was seen by me a short time ago. A young lady could not reach the upper notes of the scale. I found a small adenoid growth which I removed with my finger. She is now able to reach every note with the greatest ease.

DR. HARRISON ALLEN, of Philadelphia. Dr. Hooper's case is an evidence of the way in which the adenoid growths may affect the entire system. His case is noteworthy in view of the fact that the phenomena appeared after the removal of the growth.

With regard to the use of ether, I have not been unaware of the danger, but by fanning the patient for a moment before using the cautery the vapor of the ether is removed, and I have experienced no difficulty. My early teachings have led me to be afraid of chloroform on account of its depressing effect upon the heart.

I have been unable to find on record a case similar to the first one narrated. Dr. Langmaid's case agrees with it in that the difficulty was relieved by change of position.

In a case similar to the one related by Dr. Seiler, I removed a small mass of adenoid tissue, and although the patient was able to reach the higher notes, she complained of the sensation of a large cavity in the situation from which the mass was removed.

DR. J. SOLIS COHEN then presented to the Society the following paper, which on invitation was read:

LUPUS OF THE THROAT,

by PROF. RAMON DE LA SOTA Y. LASTRA, M.D., of Seville, Spain.

The author referred to the difficulty of diagnosis which was experienced in many of these cases, and in illustration related the following: In 1884, I was consulted by a physician on account of an affection of the throat. The patient was much emaciated, reduced in strength, and with a clay-colored complexion. He was sixty years of age. The trouble with the throat had commenced one year previously. He was unable to take anything but milk and broths. The tongue was covered with psoriatic scales. The pharynx was lumpy and of a wine-red color. The right tonsil was the seat of an ulceration extending from the pyriform fossa below to the middle of the uvula and involving half that structure. Its borders were red and swollen, its surface lumpy and irregular and of a hard and elastic consistence. Some pain was produced by palpation, but no bleeding. There was no trouble while talking or on coughing. Liquids were swallowed without difficulty. Breathing was accomplished with perfect freedom. The sub-maxillary glands were swollen. The patient had suffered from rheumatism, but no history of syphilis could be obtained. Taking into consideration the history of the case and the age of the patient, I considered it an ulcerated epithelioma. This was concurred in by the patient's physician. Nevertheless mistrusting the testimony obtained, antisyphilitic medication with mercurials was tried; this occasioned such bad results that it was necessary to suspend it. He was then placed upon the use of iron and bitter tonics and such diet as he could take. The specific treatment was subsequently resumed, but the local lesion assumed such a bad aspect, that it became necessary to give up the treatment. From the fact that the ulceration was unattended by pain, I began to have some doubts as to its epitheliomatous nature. I next prescribed sodium arsenite in ascending doses, with a gargle of resorcin, and the use of iodoform on the ulcerated surface after it was washed with a solution of borax. For a month the ulceration continued to extend, and when I had lost all hope, it stopped its progress and became covered with healthy granulations. Cicatrization went on and was complete in three months. The scar is irregular, elevated and depressed, hard and soft, the posterior portion being adherent to the pharyngeal wall. The lingual psoriasis continued. Restoration to health has taken place. It is now eighteen months since the ulcer healed. With this result I concluded that the case was one of lupus.

My experience with this and other cases of lupus of the throat has led me to conclude that the disease may make its appearance at any period of life. I have seen it more frequently in adults than in children and more frequently in men than in women. I have been unable to obtain any information in regard to inheritance. I have not found that hard drinkers or smokers were more liable to suffer, nor have I found that great exertion of the voice or exposure to irritating substances,

the application of the cautery or other agents had any influence in its production.

I have never had an opportunity of observing the initial manifestations, but I have been able to detect the involvement of sound tissues later in the disease. Sometimes the mucous membrane assumes a purple color and swells up and becomes granulated. Then one or two nodules may develop and may attain the size of a pea. Sometimes they become prominent without any alteration in the appearance of the mucous membrane; they may remain superficial or they may attack the mucous tissue and also the sub-mucous tissue. Their form is rounded and their surface is smooth. These nodules are distinguished by their rosy red color from leprous tumors. Unlike carcinoma, the tumors are usually quite distinct. On pressure they present an elastic resistance. This is greater than the hardness of inflammation, but less than that of epithelioma. The parts on which the tumor develops become rigid and the natural movement is diminished or lost, contrary to carcinoma, which usually produces sharp lancinating pain, and to leprosy, which is generally accompanied with anæsthesia; there is in lupus no alteration of the sensitiveness of the part. After a shorter or longer period, the tubercle softens and becomes ulcerated. The ulceration assumes two forms. In some cases the tumor becomes excavated to a considerable depth, while in ulcers it is more superficial. These ulcers do not bleed on pressure. The cure is difficult and attended with the formation of scars. In some cases, these ulcers develop in a slow way, while in others they start with astonishing rapidity. They may develop within a few days, or they may remain quiescent for months or years and then take on destructive action. The healing of the ulcer is followed by the formation of irregular scars, raised in some places, depressed in others, red in the former, white in the latter. Adhesions to different parts take place; cicatrization takes place slowly and is easily destroyed. Infiltration always remains.

All agree that the cure of lupus of the throat is more difficult than the same process in the skin. In the cases which I have seen, the same treatment which I have employed in external lupus, I have found of service in lupus of the throat. I do not despise internal treatment, but use such remedies as are indicated by the general condition of the patient. This has an important influence upon the result of topical treatment. If the lupus is not ulcerated I apply caustic substances. Until a few months ago I used tincture of iodine. I have, however, found good effects from the use of lactic acid. I have used it in cases of lupus of the cheek and gums and also of the larynx. I have met with no inconvenience from its use except the pain, which varies in different cases; if the lupus is ulcerated, I sometimes use the lactic acid, more frequently I employ a wash of borax and cover the ulcer with powder of iodoform. I always prescribe a gargle of a one per cent. solution of resorcin. Patients thus treated have always recovered after a greater or less time. In some cases the cure has probably been realized in the natural course of the disease rather than as a result of the therapeutic measures.

(To be continued.)

— The Massachusetts Board of Health had its first meeting last week, and chose Dr. S. W. Abbott, of Wakefield, as Secretary.

Medical and Surgical Journal.

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THE STRIKES FROM A MEDICAL POINT OF VIEW.

THE spectacle offered by the recent strikes in various parts of the country, of men giving up their individual right to work when, where, and for whom they please, and blindly obeying the irresponsible authority of certain individuals, who, better fitted for the workhouse than the workshop, are quite incapable of using intelligently any power whatever, is not a cheerful one. Many struck because they were told to do so, ignorant of any reason therefor, and conscious of no real or fancied cause of grievance in their own condition. Others simply followed their example, and struck in obedience, apparently, to the curious and unreasoning impulse to imitate the actions, or obey the commands of others, which plays so important a part in neurotic epidemics, and which reaches its highest type of special development in persons suffering from the disease known in Siberia as miryachit, examples of which are furnished, nearer home, by the Canadian "jumpers."

The following description of an instance of this malady, occurring in the steward of a steamer by which he was travelling in Eastern Siberia, is given by Lieutenant Buckingham, U. S. N.; "To annoy him (the steward), some of the passengers imitated pigs grunting, or called out absurd names, others clapped their hands and shouted, jumped, or threw their hats on the deck suddenly, and the poor steward, suddenly startled, would echo them all precisely, and sometimes, several consecutively. We afterward witnessed an incident which illustrated the extent of his disability. The captain, suddenly clapping his hands, at the same time accidentally slipped, and fell on the deck. Without having been touched by the captain, the steward instantly clapped his hands and shouted, and then, in helpless imitation, he, too, fell as hard, and almost precisely in the same manner and position as the captain. In speaking of the steward's disease, the captain of the general staff stated that it was not uncommon in Siberia; that he had seen a number of cases of it, and that it was commonest about Yakutsk, where the winter cold is extreme. Both sexes were subject to it, but

men less than women. It was known to Russians by the name of miryachit."

Dr. Thornton, of the United States Marine Hospital Service, gives, in the *Medical Record*, an account of several "jumpers" who came under his observation. One of them, a French-Canadian, came to the post-office to get his mail, and while he was speaking to the postmaster, a bystander, knowing him to be a "jumper," suddenly called out, "Grab him by the throat," whereupon the "jumper" sprang upon the unfortunate postmaster, seized him by the throat, and held on until removed. Another "jumper" was standing near the camp-heater, in which was a very hot fire, and when some one cried out, "Grab the furnace," he immediately grasped the red-hot stove-pipe with both hands and was so severely burned as to be unable to work for several weeks.

Obedience to any command whatever, and close imitation of the actions of another person, are the characteristic symptoms of this disease, which seems to be a variety of hystero-epilepsy. In order to excite the explosion of nervous energy which finds its expression in these symptoms, there is usually necessary some shock to the nervous system, and the unexpected sound, sight, or blow, which causes a nervous man to start, will, in these extreme instances of nervous instability, give rise to imitative actions or irrational obedience.

One out of many examples of similar disturbance of nervous equilibrium, but affecting large numbers of people at once, and spreading from place to place, is furnished by the remarkable dancing mania which overran a large part of Europe during the fourteenth century, and which was as truly epidemic in its nature as the Black Death of the same period. It appeared at Aix-la-Chapelle in the year 1374, and spread from there, in the space of a short time, over the Netherlands, and throughout the Rhenish provinces, being known in Germany as the dance of St. Vitus; and in Italy, where it also appeared, receiving the name of tarantism, from its supposed origin in the bite of the tarantula, or ground spider. Thousands of men, women and children were affected by this mania, and bands of dancers roamed about the country spreading the contagion as they went. The manifestations of this neurotic epidemic consisted in convulsive movements and contortions of the body and limbs, attended by insensibility to pain and a condition of mental exaltation. Its victims "formed circles, hand in hand, and appearing to have lost all control over the senses, continued dancing, regardless of the bystanders, for hours together in wild delirium, until at length they fell to the ground in a state of exhaustion," while "gangs of idle vagabonds, who understood how to imitate to the life the gestures and convulsions of those really affected, roved from place to place, seeking maintenance and adventures."

Similar epidemics have often occurred at various times in all communities, being generally associated with and caused by religious excitement and affecting principally the ignorant and uneducated classes. These are at all times, more susceptible than others to the infectious influence of emotion, whether aroused by religious excitement, by the endeavor of a feeble understanding to comprehend mysterious propositions or by the senseless impulse which inspires mobs and incites riots.

There is an element of contagion, of blind imitation and obedience in the recent strikes, which calls to mind such epidemics, while the "gangs of idle vagabonds" are fitly represented by worthless agitators who go about, spouting demented twaddle and persuading the workman, against his better reason. The formation of individual character, and education, are remedies for unnecessary strikes as well as for instability of the nervous system. Character has been defined as a completely fashioned will, being in this sense built up by successive acts of intelligent and well directed volition. Its development will enable the workingman to stand by his rights, while education will teach him not only what those rights are, but also, that individual success is, and always will be, dependent upon individual industry, and ability, and that no amount of windy declamation, personal violence or snapping of fingers in other people's factories, can ever make it otherwise.

GLASS EATING.

A CORRESPONDENT writes us that he has lately witnessed the performance of glass eating by an expert in this profession, a robust middle-aged individual by the name of Hill. The physician aforesaid, who had been sceptical as to the reality of the performance fed this Hill with two lamp chimneys, both of which were chewed and devoured. He also forced down the throat of the performer (to make sure that they were swallowed) a tea-plate full of small tacks with sundry fragments of glass of various sizes. Our correspondent is confident that there could have been no deception in this exhibition, which by the way, is of daily occurrence at the Skating Rinks and Dime Museums. The presumption would be that these fragments of glass would cause laceration of the stomach, as it is known that broken glass is atrociously prone to wound parts with which it comes in contact, sometimes causing frightful hæmorrhage. He was assured by Hill that such a result had never happened to him, and (what is still more mysterious, that neither glass nor tacks were ever voided in his dejecta!) This our correspondent disbelieves, and he thus explains the phenomenon; eating glass, tacks, etc., apart from the danger of wounding the mucous membrane of the stomach and intestines, is not necessarily any more dangerous than swallowing any inert foreign body. Geophagia has often been practised by certain Indian tribes. The fragments of glass, etc., eaten by Hill pass down to the stomach well coated with gelatinous saliva; they then become imbedded in protective mu-

cus and refuse food-matters, and so pass through the alimentary canal without inflicting injury.

Hill assured our correspondent that he had been following this business with impunity, as a means of livelihood, for fifteen years, the ordinary dose of silicate of potash being two lamp chimneys a day. Glass tumblers are sometimes eaten on exhibition, though somewhat more difficult of mastication. On the whole the natural comment on the above is that the human stomach is more tolerant than has been heretofore supposed.

"COMPOUND OXYGEN."

The *Journal of Chemistry* publishes the result of a chemical analysis which will be, we imagine, a surprise to a large portion of the public if it ever reaches them. According to that analysis, "Compound Oxygen" is a solution of nitrate of ammonia, a solution which taken internally or inhaled, can no more yield oxygen than so much cold water.

This nostrum which has so long imposed upon a credulous and easily duped public owes its success largely to the conspicuous place it has held in the advertising columns of eminently respectable journals. That newspapers devoted to religion (or at least to some religious sect) should find it for their interest to make the management of their advertising columns a matter of business only, is not surprising; religious journals cause us surprise only when they rule out "medical" advertisements altogether from their columns.

It is a surprise, however, to find a nostrum like compound oxygen occupying a prominent place, or any space at all, for that matter, in a journal whose aim it is to popularize the results of modern scientific research.

MEDICAL NOTES.

— Physicians are eligible to membership in the Knights of Labor, lawyers and liquor dealers only being excluded.

— The facts as to a serious defection of the students in the medical department of the University of Vermont are probably known to our readers through the public press. A large number of the students have left Burlington. We are informed that the graduating class, numbering fifty, have applied to be graduated from the Medical School of Maine, at Bowdoin College, and offered to bring sixty juniors with them. The School declined to receive them, being unwilling to break the rule requiring a student to have attended one of his two full courses at that institution before receiving its degree, and the term being then half completed.

— The Medical Department of the University of the City of New York has recently received a gift of $100,000, to be devoted to the construction and maintenance of a laboratory building, to be known as the Loomis Laboratory. The gentleman who has made the gift wishes that for the present his name should not be made public. It is said that land adjoining the college property has already been bought, and that it is hoped that the new building will be ready for occupation next year.

The gratifying evidence that men of wealth are beginning to realize how useful their benefactions may be made in connection with institutions of medical science, is further confirmed by reports of two legacies recently received by the New York Academy of Medicine, of $70,000 and $5,000 respectively.

— The *Boston Transcript* has the following pleasant bit of gossip regarding an eminent London physician, who, about a month ago, had a telegram from the wife of a noble patient at Cannes, "Come for consultation; fee £1000." The great doctor replied, "Anxious cases; cannot come." Her ladyship seems to have thought that this was but a way of making a better bargain, for she increased her offer in four successive telegrams, till the last read, "Come at once — £5,000." While the five telegrams and the replies were being sent backward and forward the "anxious cases" considerately died or got better; so our doctor in his last reply telegraphed "Coming." After he had seen his patient at Cannes, my lady inquired what was the fee. He said "All the Riviera doctors with English clients met and fixed the fee for a consultation — the consultant coming expressly from London — at £1,000." A check for £1,000 was accordingly presented to him. Calling on his way to his train next day, merely to say good by and inquire after his patient, the lady handed him an envelope "not to be opened till by and by." The doctor said, "I have had my fee. This visit is not professional, but complimentary;" but being told to put the envelope in his pocket, he did so. Later on he found it contained a check for £500 — a sum which had no particular relation to the telegraphic bids. Nor is this all. Four checks came on successive days, their united value being £3,500, all signed by her ladyship; and at the bank letters were received preparing the cashier for their presentation. The doctor wrote, saying he had had his fee and could take no more. He offered to return £4,000 or distribute it among useful institutions. As the money was left in his hands he adopted the latter course, with the result that £1,000 was given to the Medical Examination Hall, £1,000 to each of two hospitals and £1,000 to one of the medical institutes.

NEW YORK.

— Dr. George W. Hodgson, the oldest and one of the best known physicians in Westchester County, died at his residence in White Plains on the 23d of May, at the age of 74.

— The Queen's County Medical Society held its annual meeting at Mineola, Long Island, May 27th, when the following officers were elected: President, Dr. E. D. Skinner; Vice-President, Dr. Joseph H. Bogart; Secretary and Treasurer, Dr. C. G. J. Finn.

— During the voyage of the Norwegian bark, Aguila, which left Rio Janeiro on the 11th of February and arrived at New York, May 28th, there were two deaths from yellow fever; one of the victims being the captain of the vessel. His death which was the later of the two, occurred, however, as long ago as March 18th.

— A few days ago the attention of the police of Elmira was called to a physician and his daughter who were in a state of maniacal excitement at the Delavan House, in that place. They were removed to the city hospital, and it proved that they were both victims of the cocoaine habit. The father, who was from Sharpsville, Pa., but had been practising for some time at Evansville, Ind., is said to have acquired the habit through experimentation with the drug, and to have taken as much as forty grains a day by hypodermic injections. The daughter, who is only nineteen years of age, has used the injections for only seven weeks, resorting to them at first for the relief of pain, but is already confirmed in the habit.

— Dr. Valentine Mott recently returned from Paris with a rabbit which had been inoculated by Pasteur, and since then daily experiments have been made by Dr. Alexander B. Mott to test the quality of the virus. The rabbit died May 16th, and another inoculated from it on that day, died May 24th. A number of medical men met at Dr. Mott's residence on the evening of May 24th, to consider plans for the proposed Pasteur Institute in New York, and it was estimated that $5,000 would be necessary for the first year. Medical treatment in the institute is to be free, but funds are needed for renting a suitable house and defraying other expenses in connection with the enterprise. It was decided to issue an appeal to the public for subscriptions, and if this is successful, a small house will be hired in a central location without delay. The officers of the proposed institute are: — President, Dr. Alexander B. Mott; Vice-President, Drs. Alexander F. Liantard and Louis Deplasse; Recording Secretary, Professor Charles Villa, and Corresponding Secretary, Dr. Valentine Mott.

Miscellany.

SURGICAL TREATMENT OF BRONCHIECTASIS.

THE valuable paper contributed by Dr. C. T. Williams and Mr. Rickman Godlee to the Royal Medical and Chirurgical Society provoked considerable discussion, and may be regarded as marking a decided step in advance in the surgical treatment of suppurative disease of the lung. From the report in the *Lancet*, it will be seen that the following features were the main topics of discussion. All the speakers commented on the difficulty of diagnosing bronchiectasis, and special stress was laid by Drs. Goodhart, Barlow, and Coupland, on the difficulty that offered when a bronchus was totally obstructed. Under these circumstances, the absence of breath-sound, loss of vocal fremitus, and almost absolute dulness, gave a decided clinical resemblance to effusion into the pleura; and in most of the illustrative cases, the diagnosis was only made at the post-mortem examination. Most speakers concurred in the difficulty of forming any positive conclusion as to the existence of pleural adhesions. The majority of those who joined in the discussion argued that the most favorable cases for operation were not those of simple bronchiectasis, but those in which there was added a fibrosis or chronic pneumonia around the bronchial dilatation. Indeed, the authors of the paper considered that simple multiple bronchiectasis was not likely to be relieved by paracentesis. Other centres of interest were the question of danger from hæmorrhage, and the best method of exploring to discover the site of the bronchial dilatation. Sir Andrew Clark believed that the reason why hæmorrhage was slight in operations in such cases was because, fibrosis being generally present, the arteries were also sclerosed and their calibre diminished. The argument is perhaps supported by the freedom from hæmorrhage in some cases, but it might be urged that a sclerosed vessel would be more likely to remain patent, contraction of the middle coats being prevented. That danger may arise from hæmorrhage, was testified to by Mr. Godlee and Mr. Gould, who also spoke on the value of an aspirator in the detection of the situation of cavities.

OBITUARY. HORATIO GILEAD MORSE, M.D.

Dr. H. G. Morse, one of the oldest physicians in Roxbury, died suddenly May 12. He was born in Roxbury in the same house where he died, on April 14, 1817. He received his early education in the Roxbury School and prepared for college at Worcester Academy and at New Hampton, N. H. He was graduated from Brown University in 1840, and immediately entered the Harvard Medical School, at the same time carrying on his medical studies with the late Dr. Winslow Lewis. After three years he graduated in 1843, in the same class with the late Drs. George H. Gay and Samuel Cabot. He commenced the practice of medicine in Roxbury on what is now Washington Street, but was soon afterwards taken severely ill with typhoid fever; recovering from that he recommenced practice at the family residence on Zeigler Street. He enjoyed for many years a very large practice as a general practitioner, doing some surgery, but his greatest work was in obstetrics, in which branch he became quite popular; he enjoyed a very large practice amongst the German population of Roxbury; he was always quiet, not pushing himself forward, positive in his ideas in regard to medicine, and thoroughly conscientious to every duty and trust. He was slow to take up with new hobbies in the practice of medicine, believing in the old ways. He was at one time connected with the Roxbury Dispensary, was for some thirty years a member of the Roxbury and Boston School Committee, and for many years chairman of the Roxbury board; he served a year in the Legislature, was connected with several masonic bodies as well as with the Odd Fellows. For the last few years increasing age and failing strength has induced him to abandon much of his practice, though he never entirely relinquished it, and saw patients up to the evening previous to the day of his death, so that he died in the harness.

Correspondence.

PARIS LETTER.[1]

PASTEUR AND HYDROPHOBIA.

MR. EDITOR, — It seems impossible to doubt Pasteur's statements concerning the condition of his rabbits following inoculation beneath the dura mater. I watched them carefully from the first to the seventh day, and their condition was strictly as represented by Pasteur.

Probably no one would attempt to claim, if the rabbits died from the operation, that *all would systematically fall ill on the seventh* day after the operation. This would not be reasonable, for neither traumatic nor septic effects could possibly harmonize with such absolute precision as to the

[1] Concluded from page 503.

date of fatality. On the other hand, the period of incubation succeeding inoculation of rabbits, with a virus of known intensity in each case, has apparently assumed a fixed duration, which may be anticipated in every case.

Vulpian said to the Academy: "Pasteur has created a method of treatment by means of which one may, with absolute certainty, prevent the development of rabies in a man who has been bitten by a mad dog. I say with absolute certainty, because, after what I have observed in M. Pasteur's laboratory, I cannot doubt."

At the risk of telling a now twice-told tale, let me give a synopsis of Pasteur's entire procedure: A dog dead of undoubted rabies, is bound, spine upward, to the operating board; the spinal canal is opened with instruments purified by heat; the cord and medulla oblongata are removed, and a portion of cord or medulla several centimeters in length, is rubbed up, first with a drop or two of pure water, then with four to six times its bulk of sterilized veal bouillon, and injected into the head of a rabbit, thus: The animal is bound to the board, and is chloroformed; the integuments over the frontal bone are longitudinally incised; the bone is very beautifully trephined, and a button of bone one-quarter of an inch in diameter, is removed. A drop (not "several drops," Vignal) is injected beneath the dura mater (not "into the arachnoid membrane," as Vignal says in his paper,) with a sterilized Pravaz syringe, the point having a right angle. The wound, one inch long, is *washed* clean several times with a solution of phenic acid, is closed by two silk sutures, and the rabbit carried to the cage. In fifteen days the animal dies, or is seized with rabies. From this rabbit, a second is inoculated, from the second a third, and so on, until twenty-five rabbits form the first series. The virus will now cause rabies in a rabbit in eight days. Continuing the process, another series of twenty-five rabbits is inoculated, and having passed through fifty rabbits, the intensity of the virus has reached its acme, and further reinforcement, even to a ninetieth rabbit, will not increase its virulence. It will now cause rabies in a rabbit in seven (or six) days, and death occurs two or three days thereafter.[2]

From a rabbit killed by this virus, the cord is removed, with the usual aseptic precautions; is cut into lengths (6 cm.), which are laid in a small, sterilized plate; thence are suspended, one by one, on threads, in bottles (one cord to each) of two litres' capacity, previously sterilized by baking. The bottom of each is covered, one-third of an inch deep, with bits of caustic potash, which aids in the dessication. Each bottle has a second and lateral mouth near the bottom, to promote circulation of air in the flask, both mouths being stopped by antiseptic wadding. The bottles are kept in a ventilated cabinet, whose constant temperature is 20° C.

The duration of virulence in the cords depends upon their temperature; the lower it is, the less the virus diminishes. In three or four hours, the cords begin to dry. In four of five days, they are perfectly dry. Their virulence is null at the end of fourteen days, unless the cord be very large, when fifteen days are necessary. A seven days' cord will not produce rabies in a rabbit. The cords are now ready for the inoculation of human beings. The process and method have been described.

Many persons, I find, are not clear as to Pasteur's meaning, when he speaks of the nearly neutral virulence of a cord which has dried fourteen days. He does not mean that the virus is less virulent, but that there is less of it. Drying has the effect of lessening the quantity, not the intensity of the virus. This explains the sense of "attenuation by drying."

NOTES OF STATEMENTS MADE TO ME AT VARIOUS TIMES BY PASTEUR.

— "We have inoculated 944 individuals (May 4th). The death-rate in persons bitten by mad dogs, according to different writers, reaches thirty, thirty-five, forty, and Bollinger sets it at forty-seven per cent. In order to be moderate, I have set it at sixteen per cent. Now, if out of my 944 inoculated patients, twenty had died, that would not prove anything against my method. Small-pox does not always respect protected individuals, but as yet, my patients live, and more than half of them have passed the dangerous stage."

— "The virus of the wolf and of the dog evidently have the same virulence. The difference between the effect of mad dog and mad wolf-bites, depends chiefly upon the number and nature of the bites."

— "I do not endanger patients by inoculating them with rabic virus. Their number, their condition, the length of time now elapsed since I began to inoculate them, proves this."

— "There are no more cases of rabic dog-bites than formerly there were; not at all. The rush of people to me makes it appear so, but remember, they come from the entire world. Before my method was discovered, the friends of a person bitten by a dog, assured him that the animal was not mad. Even the name 'rabies' was not mentioned, for fear of frightening the individual, and the dog was killed. The matter was hushed, in order that the person bitten might not fear rabies, and that others might not fear him. Now, nothing is concealed."

— "That dogs are rendered refractory by rabbit virus, has long been admitted by unprejudiced, competent persons, and need not be discussed. Whoever doubts that I have not made every possible test experiment to avoid error, such as injecting rabbits with simple bouillon by trephining, inoculating dogs with rabbit virus, etc., etc., must be very ignorant of my methods."

— "I protect my dogs by inoculating with pure rabbit virus. I use nothing else."

— "I am making, in guinea-pigs, a study of the question as to whether the inoculation of breeding animals with rabbit virus, will render the offspring refractory to rabies. As yet, I have not reached a conclusion."

— "What do I consider the nature of the virus? Rabic microbes. Fol, of Geneva, has isolated them. I do not cultivate them, and prefer the reinforced virus of attenuated cords, because I am sure of its purity. From my experience with other forms of culture, I think it possible that in cultures of rabic microbes, the latter may create a matter which destroys them, or prevents their development. Until this point is settled, I shall continue to use the cord itself."[3]

—"I no longer use either saliva or salivary glands because in both may be foreign organisms. Nervous matter is free from them and therefore better for my purpose."

— "Since 1882 I have had an unbroken chain of reinforced rabbit virus which I consider pure and identical with itself. The supply is continued by inoculating two rabbits every day with virus from a rabbit dead of rabies. The virus which has passed through fifty rabbits is more intense than that of a mad street-dog."

—"Formerly I supposed the virus to be lodged only in the medulla oblongata. Later I found the cord equally virulent throughout its entire length."

—"Preserved in pure carbonic acid, cords will retain their virulence several months, provided they be kept free of all changes from strange microbes."

— "During the recent visit of the English Commission, Mr. Victor Horsley, then secretary, took from me the addresses of 110 persons in Paris and vicinity whom I have inoculated. He sought out and questioned every one of them and found them not only well but grateful."

— "The best proof I possess of the rabic condition of the dog which bit the Meister boy is a letter from Prince Hohenlohe, who at my request made the proper inquiries

[2] The bouillon is now made from veal, because, said Pasteur, veal costs less than chicken, and makes a larger quantity of bouillon at once.

[3] Rivolta, of Florence, announces (La Semaine Médicale, April 14th) the discovery, in rabic cerebro-spinal axes of rabbits, of microbes formed by several round or oval granulations united in chains. They were found abundantly in the medulla, were very numerous in the cord, but rare in the hemispheres; were found, also, in the epithelium of the salivary glands. Rivolta also reports that he caused rabies in rabbits by inoculation. In three, he used a filtration of virus in sterilized, distilled water. In two, he used the liquid remaining upon the porcelain filter. The two latter died of rabies in eighteen days. The first three, four months later, showed no signs of hydrophobia.

and then wrote me that there was every evidence that the dog was mad."

— "What I mean by decrease of virulence in cords by drying is that the drier they become the fewer rabic microbes do they contain. In the fourteenth cord they have disappeared, but there still remains a material which I term *vaccinate* or *preventive* matter and this matter begins the protection of my patients. The two rabic qualities — the microbes and the vaccinate material — co-exists in the fresher cords but the latter substance alone in the fourteenth. In which of the cords the microbes begin to appear it is difficult to say."

—"The bite of a dog which has been inoculated with rabbit virus is not dangerous on that account, and only unless the dog has already gone mad."

—"On days when no new patients appear I begin to inoculate with the virus corresponding with the newest series of patients who are present."

— "Tell American sceptics to *wait*. Doubt is wise and healthful but doubters must not expect all their questions to be answered at once. Recall Jenner. Could he have satisfied his opponents while he still stood upon the threshold of his experience? Let your last word to them be *wait*, and if they continue to doubt let them come to me and judge for themselves."

With one exception Pasteur freely shows every step of the process of and preparation for inoculation. One sees the bouillon prepared and sterilized. He sees the dead rabic rabbit and may have watched him from inoculation to death; sees his cord removed; sees a morsel *taken away* for emulsification in boullion; sees a rabbit narcotized, trephined and inoculated with this preparation and if one chooses he may watch the rabbit daily until he dies and then see his cord removed and hung in the drying bottle, and examine these daily until they are used, and finally may witness the injection of virulent bouillon containing portions of these cords, into the abdominal tissues of a human patient. *But*, a link is missing from this chain. The visitor does *not* see the preparation of this virulent bouillon, that is, the rubbing up of the morsel of rabic cord with the bouillon, and Pasteur refuses to allow it. Not decidedly, not ungraciously, but *enfin* he refuses. I asked him why. The national shrug followed as a matter of course and the reply was: "Mon Dieu! This point is a small matter. If I allow one visitor to witness the procedure I must admit many. Their movements would raise a dust and endanger the purity of my bouillon. It is intended for human beings and I must be careful." This feature is unsatisfactory to certain of Pasteur's visitors, although his reason for it is at least plausible. In order to become personally certain of the absolute sincerity of every step of the entire process, one should see the original rabic dog and know that he is mad; should see him die; see him dissected; see the virulent cord removed; watch the inoculation of it into the first rabbit; *see it* die of rabies, its cord removed and injected into rabbit number two and soon to the fiftieth; "assist" at the manufacture, sterilization and inoculation of the bouillon with the identical virus of the fiftieth rabbit and follow it until a syringeful has disappeared beneath the skin of a human being positively known to be under the influence of the bite of a dog also positively known to be rabic. This close personal scrutiny would occupy one daily and nightly for at least twelve months, and, it need not be said that he must personally control every one of the rabic cords intended for inoculation.

The following details of the inoculation of the bouillon were given me by Pasteur himself: In a room whose atmosphere is never allowed to be agitated, the assistant whose special work it is, lifts by its thread a dried cord from the drying bottle, passes both spinal cord and thread through the flame of an alcohol lamp, in order to destroy germs which may have fallen upon them during their removal, cuts a section of proper size with scissors, allows it to drop into a wineglass, rubs it up by means of a glass rod with a drop of pure water to moisten it, then rubbing constantly adds little by little the sterilized bouillon until five to six times the bulk of the cord, *before it was dried*, has been added and the process is complete. The glass is immediately wrapped in aseptic paper. Every instrument and glass used in this process is sterilized. Ten glasses are thus prepared for each day.

Vignal, in his paper, says that the whole length of the dried section of cord is dropped into the glass. This is an error. A small portion not over one inch in length is used.

That Pasteur does not attempt to conceal anything is shown by his gift to-day to the English Commission of two freshly inoculated rabbits, which Mr. Horsely immediately took to London where he will institute experiments with virus from these animals. Even the Commission did not witness the inoculation of the bouillon.

Something must be taken on faith in a procedure so complicated, and surely in consideration of his reputation and of the immense benefits which he has already conferred upon humanity by other discoveries, which at first met with the scepticism now meted out to preventive inoculation for rabies, — Pasteur deserves some confidence.

A recent writer on evolution says: "Truth becomes truth by its own achievement. . . . The wise spontaneous treatment of new theories delays their acceptance even when proved true, but always with advantage to the truth; for however fair the final form is to be, it comes unshaped and with entanglements, and often like some animals is born blind."

Pasteur's faith in his new method is steadfast as a rock. He has been doubted before, yet proved himself right. He welcomes criticism, but scorns blank contradiction. In all simplicity he says: "Any scientific man may fail in an experiment, but thus far I see only reason to hope, for I believe I have proved every step of my way."

In view of the object of his labors, in view of his simplicity, sincerity and earnestness, all criticism upon his method, his statements his theories, and upon his noble endeavor to save human beings from a horrible death, should be clothed with faith in the man himself.

Personally, I have to thank him for his great kindness to me during my visits to this laboratory on twelve successive days. H. O.

P. S. Pasteur has now (May 7th), inoculated 965 individuals, the Pelletier child remaining the one fatal case.

The 726 cases inoculated previous to April 12th, represented the following nationalities: France 505 cases; Algeria 40; Russia 75; England 25; Italy 24; Austrian Hungary 13; Belgium 10; North America 9; Finland 6; Germany 5; Portugal 5; Spain 4; Greece 3; Switzerland and Brazil each 1 case. Of these 688 were bitten by mad dogs, 38 by mad wolves. 682,500 francs have already been contributed toward the establishment of an institution for the inoculation of persons bitten by mad animals. H. O.

A CORRECTION.

NEW YORK, May 25, 1885.

MR. EDITOR,— I am exceedingly sorry that my communication of last week (JOURNAL, May 20th) appears to you disingenuous. I submitted it, before transmission, to Dr. R. P. Lincoln, who referred the patient to me, and he thought it perfectly fair. I think you are mistaken in some of your statements. Mr. Ormiston *did* allude to me by name, as you will find by referring to the March number of the *Homoleetic Review* (p. 216). I made no attack upon this excellent religious journal, nor did I say that the writer had therein praised any of the quack agents. I simply complained of the questionable tone and unfairness of the article, and deplored the evil effects of "spread eagle" dissertations by clergymen upon medical subjects. Yours very truly,

ALLAN MCLANE HAMILTON, M.D.

[It is true that Dr. Hamilton's name appears as he says. We regret that we should have overlooked it. We are glad to know that we misunderstood the tenor of his letter exactly as we think Dr. Hamilton misunderstood the tenor of our editorial.—ED.]

REPORTED MORTALITY FOR THE WEEK ENDING MAY 22, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Diph. and Croup.	Scarlet Fever.
New York	1,439,039	626	213	16.80	19.04	2.94	6.88	1.68
Philadelphia	971,363	368	119	15.66	14.04	1.62	7.29	2.16
Brooklyn	690,000	257	98	10.92	10.93	3.90	19.11	3.54
Chicago	630,000	—	—	—	—	—	—	—
Boston	390,406	175	56	10.83	18.24	1.14	3.99	2.28
St. Louis	417,220	158	72	19.53	11.34	.63	1.09	.63
Baltimore	400,000	—	—	—	—	—	—	—
Cincinnati	325,000	—	—	—	—	—	—	—
New Orleans	228,000	130	60	12.56	14.63	—	1.54	—
Buffalo	202,818	—	—	—	—	—	—	—
District of Columbia	205,000	62	19	6.44	17.71	3.22	—	—
Pittsburgh	190,000	67	31	13.32	11.84	1.48	1.48	1.48
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	118,070	34	8	11.76	17.84	—	5.88	—
New Haven	78,000	—	—	—	—	—	—	—
Nashville	60,000	27	11	3.70	29.40	3.70	—	—
Charleston	60,145	41	18	21.96	4.88	17.08	—	—
Worcester	68,383	27	19	14.80	—	—	—	—
Lowell	64,051	31	15	6.46	9.69	6.46	—	—
Cambridge	59,660	18	5	22.22	77.77	—	11.11	—
Fall River	56,863	13	5	7.69	—	—	—	—
Lynn	45,861	7	1	—	67.12	—	—	—
Lawrence	38,825	11	0	9.09	—	—	—	—
Springfield	37,577	13	3	23.07	7.69	—	7.69	—
New Bedford	33,393	11	5	—	9.09	—	—	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	11	2	—	9.09	—	—	—
Holyoke	27,894	8	5	—	12.50	—	—	—
Chelsea	25,709	7	2	14.28	28.56	—	14.28	—
Taunton	23,674	8	2	—	12.50	—	—	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	8	5	12.50	25.00	—	—	—
Brockton	20,783	—	—	—	—	—	—	—
Newton	19,759	4	0	—	—	—	—	—
Malden	16,407	1	0	—	—	—	—	—
Fitchburg	15,375	2	0	20.00	20.00	—	—	—
Waltham	14,609	4	0	—	—	—	—	—
Newburyport	13,716	1	0	—	—	—	—	—
Northampton	12,896	3	2	33.33	—	—	—	—
89 Massachusetts Towns	—	34	8	14.70	14.70	—	5.88	8.82

Deaths reported 2,147: under five years of age 784: principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 320, consumption 364, lung diseases 262, diphtheria and croup 105, diarrhœal diseases 58, scarlet fever 35, malarial fever 23, typhoid fever 22, whooping-cough 21, measles 18, erysipelas 16, cerebro-spinal meningitis 12, puerperal fever nine, small-pox (New York) one. From malarial fever, Baltimore seven, New York and New Orleans six each. Brooklyn two. Philadelphia and District of Columbia one each. From typhoid fever, Philadelphia 10, New York three, Pittsburgh and Providence two each, Boston, New Orleans, Worcester, Lawrence and Gloucester one each. From measles, Baltimore 11, New York, Charleston and Worcester two each, Pittsburgh one. From whooping-cough, New York 11, Baltimore five, Pittsburgh five, Brooklyn and Northampton one each. From erysipelas, Boston four, Philadelphia three, New York, Brooklyn and Baltimore two each, New Orleans, Cambridge and Fitchburg one each. From cerebro-spinal meningitis, New York three, Philadelphia and Springfield two each, Baltimore, New Orleans, District of Columbia, Worcester and Fall River one each. From puerperal fever, New York four, Brooklyn two, Philadelphia, Boston and Cambridge one each.

In 109 cities and towns of Massachusetts, with a population of 1,300,024 (population of the State 1,941,465), the total death-rate for the week was 15.85 against 15.76 and 17.14 for the two preceding weeks.

For the week ending May 8th, in the Swiss towns, there were 34 deaths from consumption, lung diseases 32, diarrhœal diseases 15, whooping-cough nine, measles eight, diphtheria eight, typhoid fever three, erysipelas one.

The death-rates were: at Zurich 17.2; Geneva 18.2; Basle 21.5; Berne 21.4.

The meteorological record for week ending May 22, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps: —

Week ending Saturday, May 22, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday, ... 16	29.822	56.9	66.6	45.4	100.0	86.0	63.0	83.0	S.	S.E.	N.E.	12	6	9	R.	C.	C.	—	—
Monday, .. 17	30.165	54.8	61.5	45.2	57.0	35.0	52.0	48.0	N.W.	N.	N.W.	12	12	5	C.	F.	C.	—	—
Tuesday, . 18	30.301	58.8	65.3	46.1	48.0	37.0	58.0	47.7	S.W.	S.	W.	6	8	14	C.	F.	O.	—	—
Wednes., 19	30.167	57.7	65.4	52.0	66.0	63.0	86.0	71.7	S.W.	W.	S.W.	10	17	16	O.	C.	C.	—	—
Thursday, 20	29.884	64.6	76.2	51.7	76.0	43.0	85.0	68.0	S.W.	S.W.	N.W.	18	16	10	F.	F.	O.	—	—
Friday, ... 21	29.908	64.0	72.4	54.9	56.0	19.0	39.0	38.0	N.W.	N.W.	W.	15	16	8	C.	C.	O.	—	—
Saturday, .22	29.820	63.0	75.8	56.2	61.0	67.0	65.0	64.3	W.	S.E.	S.W.	7	10	12	F.	C.	O.	.6½	0.93
Mean, the Week.	30.009	60.0	69.0	50.2				60.1											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MAY 22, 1886, TO MAY 28, 1886.

SMITH, ANDREW K., surgeon and lieutenant colonel, Major Alfred A. Woodhull, surgeon, and Captain Jas. P. Kimball, assistant surgeon. Detailed as Board to assemble at United States Military Academy, West Point, N. Y., on June 1, 1886, to examine into the physical qualifications of members of the graduating class and the candidates for admission to the Academy. S. O. 119, May 21, 1886.

HARTSUFF, ALBERT, major and surgeon. Detailed as member of a Board appointed to meet at United States Military Academy, West Point, N. Y., on June 1st and August 25th, 1886, to examine into the physical qualifications of members of the graduating class and the candidates for admission to the academy. S. O. 121, A. G. O., May 25, 1886.

Paragraph 7, S. O. 120, A. G. O., May 24th, revokes so much of paragraph 12, S. O. 119, A. G. O., May 21st, as details Surgeon Alfred A. Woodhull, as member of medical examining board to meet at West Point, N. Y., June 1, 1886.

WINNE, C. K., captain and assistant surgeon. Granted leave of absence for twenty days on surgeon's certificate of disability. S. O. 34, Department of California, May 17, 1886.

KILBOURNE, HENRY S., captain and assistant surgeon. Assigned to duty at Vancouver Barracks, Washington Ter. S. O. 80, Department of Columbia, May 15, 1886.

APPEL, A. H., captain and assistant surgeon. Ordered for duty at Fort Reno, Indian Ter. S. O. 52, Department of Missouri, May 24, 1886.

BENHAM, R. B, captain and assistant surgeon. Ordered for temporary duty at Fort Omaha, Neb. S. O. 56, Department of the Platte, May 24, 1886.

JOHNSON, R. W., first lieutenant and assistant surgeon. Ordered for duty at Fort Adams, R. I. S. O. 45, Division of the Atlantic, May 25, 1886.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING MAY 29, 1886.

DICKSON, S. H., passed assistant surgeon. Detached from the Naval Academy and to the "Constellation."

SIMON, W. J., surgeon. Detached from the Naval Academy and to the "Constellation."

KIDDER, B. H., surgeon. Detached from the "Powhatan" and to the "Tennessee."

RHOADES, A. C., surgeon. Detached from the "Tennessee," proceed home and wait orders.

CORDEIRO, F. J. B., assistant surgeon. Detached from the "Powhatan," proceed home and wait orders.

CLARK, J. H., surgeon. Ordered for examination preliminary to promotion.

HUGG, JOSEPH, surgeon. Detached from the "Minnesota," and granted sick-leave.

BEAUMONT, H. N., surgeon, ordered to the receiving-ship "Minnesota."

LAW, H. L., surgeon. Detached from the "Wabash" and granted sick-leave.

HENRY, CHAS. P., assistant surgeon. Ordered to the receiving ship "New Hampshire."

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE FOR THE THREE WEEKS ENDING MAY 22, 1886.

BAILHACHE, P. H., surgeon. Detailed as chairman, Board for physical examination of candidates for appointment as cadets, Revenue Marine Service, May 19, 1886.

WYMAN, WALTER, surgeon. Granted leave of absence for thirty days, May 14, 1886.

STONER, G. W., surgeon. Detailed as recorder, Board for physical examination of candidates for appointment as cadets, Revenue Marine Service, May 19, 1886.

BANKS, C. E., passed assistant surgeon. Leave of absence extended four days, May 5, 1886.

BRATTON, W. D., assistant surgeon. Detailed as medical officer, Revenue Steamer "Corwin," during cruise, May 22, 1886.

PERRY, F. B., assistant surgeon. Appointed an assistant surgeon, May 21, 1886. Assigned to temporary duty at San Francisco, Cal., May 22, 1886.

DEATH.

Dr. W. O. Baldwin, President of the American Medical Association, in 1867, died at Montgomery, Ala., May 30.

SOCIETY NOTICES.

MASSACHUSETTS MEDICAL SOCIETY, SUFFOLK DISTRICT. — The Section for Clinical Medicine, Pathology and Hygiene will meet at HUNTINGTON HALL, MASS. INSTITUTE OF TECHNOLOGY, June 8, 1886, at 7.45 o'clock. The discussion upon the subject "The Effect of Military Drill on Boys," adjourned from the meeting of April 14th, will be opened by Prof. D. A. Sargent, of Harvard University. A demonstration of the Drill and its effects will be given, and this system compared with other forms of Physical Exercise; illustrated by means of a series of living subjects. Distinguished gentlemen from other Colleges and Schools have been invited to take part in the discussion. The Public is invited to attend. Members of the Massachusetts Medical Society are cordially invited to visit the Hemenway Gymnasium at Cambridge, the Gymnasium of the Boston Young Men's Christian Association, that of the Boston Young Men's Christian Union, and that of the Mass. Institute of Technology, and witness the exercises of the classes in those institutions.

F. I. KNIGHT, M.D., *Chairman.*
ALBERT N. BLODGETT, M.D., *Secretary.*

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — The last regular meeting of the year will be held at the Medical Library, 19 Boylston Place, Monday evening, June 7th, at eight o'clock. Readers: Dr. Edward J. Forster, "A Case of Puerperal Diphtheria." Dr. Arthur H. Nichols, "A Case of Poisoning by Chloride of Zinc; with Remarks."

CHARLES P. STRONG, *Secretary.*

NEW HAMPSHIRE MEDICAL SOCIETY. — The Ninety-Sixth Annual Meeting will convene in the chapel of the First Baptist Church, North State St, between School and Warren Sts., Concord, Tuesday, June 15, 1886, at 11 o'clock, A.M. The following papers will be read: Annual Address by the President, at 12 o'clock. Essay on School Hygiene, Dr. D. M. Currier, Newport. Report on Obstetrics, Dr. Frank Blaisdell, Goffstown. Dissertation, "Medical Common-Sense," Dr. C. A. Allen, Acworth. Report on Practical Medicine, Dr. J. F. Brown, Manchester. Dissertation, "A few Points in the Pathology and Treatment of Fever," Prof. C. P. Frost, Hanover. Report on Surgery, Dr. C. B. Hammond, Nashua. Oration, Dr. M. H. Felt, Hillsborough. Essay on Typhoid Fever, Dr. I. H. Adams, Derry. Dissertation on Nerve Weakness, Dr. H. C. Holbrook, Penacook. Report on Necrology, Dr. E. L. Carr, Pittsfield. The Annual Dinner will be served Tuesday, at the Phenix Hotel, at 1 P.M.

RHODE ISLAND MEDICAL SOCIETY. — The Seventy-Fifth Annual Meeting will be held on Thursday, June 10, 1886, at 62 Westminster Street, Providence. Annual Address by W. H. Palmer, M.D., at 1 o'clock, P.M. The Annual Dinner will be served in Blackstone Hall, corner Washington and Snow Streets, following adjournment. Dr. W. R. White, Anniversary Chairman. Dinner tickets can be obtained of the Treasurer.

GEO. D. HERSEY, M.D., *Recording Secretary.*

ASSOCIATION OF AMERICAN PHYSICIANS. — The First Annual Meeting will be held at Washington, June 17th and 18th, 1886.

Thursday, June 17th. 10 A.M. — I. "Organization." Address by the President, Francis Delafield, M.D., New York. II. "Knee-Jerk and Muscle-Jerk in Disease," by S. Weir Mitchell, M.D., Philadelphia, in conjunction with Morris Lewes, M.D. III. "Typhoid Fever," by F. Peyre Porcher, M.D., Charleston, S.C. Afternoon Session, 3 P.M. IV. "Spasm of the Larynx in Rickets," by J. T. Whittaker, M.D., Cincinnati, Ohio. V. Discussion: "Does the present State of Knowledge justify a Clinical and Pathological Correlation of Rheumatism, Gout, Diabetes and Chronic Bright's Disease?" Referee, James Tyson, M.D., Philadelphia, Co-Referee, W. H. Draper, M.D., New York. VI. "Notes on some Cases of Diaphragmatic Pleurisy," by E. T. Bruen, M.D., Philadelphia.

Friday, June 18th. 10 P.M. — VII. "Certain Elements found in the Blood of Malarial Fever," by W. T. Councilman, M.D., Baltimore. VIII. "Certain Clinical Facts connected with Tabes Dorsalis," by H. N. Lyman, M.D., Chicago. IX. "Diseases of the Appendix Cæci," by Reginald H. Fitz, M.D., Boston. Afternoon Session, 3 P.M. X. "Peri-Uterine Inflammation," by Wm. M. Polk, M.D., New York. XI. "An Experimental Study of Glomerulo Nephritis," by W. H. Welch, M.D., Johns Hopkins University, Baltimore. XII. "Bicuspid Condition of the Semilunar Valves," by William Osler, M.D., Philadelphia. Other papers are promised.

RESIGNATION.

Dr. F. W. Draper has resigned his position as Visiting Physician at the Boston City Hospital.

BOOKS AND PAMPHLETS RECEIVED.

Oxygen Treatment and Oxygen Charlatans. Wallian. (Reprint from Medical World, with additions.) New York. 1886.

Diseases of the Digestive Organs in Infancy and Childhood, with Chapters on the Investigation of Disease and on the General Management of Children. By Louis Starr, M.D., Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania. With colored plates and other illustrations. Philadelphia: P. Blakiston & Co. 1886.

Lecture.

UNDERCURRENTS OF MODERN MEDICINE.

THE ANNUAL DISCOURSE, DELIVERED BEFORE THE MASSACHUSETTS MEDICAL SOCIETY, JUNE 9, 1886.

BY RICHARD M. HODGES, M.D.

Not longer ago than when this Society was founded, the element of mystery, and the spirit of credulity, pervaded medical knowledge so intimately, that escape from their sinister influences seemed almost hopeless. From that day to the present time, however, there has been a perpetual, and still unceasing effort, to enlighten ignorance, and to interpret obscurity. Science has sorely shaken the foundations of many time-honored delusions. The complex causes and entangled results, which medicine attempts to regulate, have been so unravelled, analyzed, and illumined, that we already look back on an era of unexpected progress. Exact observation has taken the place of speculation and pseudo-philosophic discussion. Predictions can be made, without the shadow of doubt, that definite consequences will follow a given lesion. There are maladies which can be prevented, or stamped out, as surely as the waters of a stream can be dammed by the engineer. Apparent inconsistences, — such as the good health of persons who work in the midst of filth and offensive effluvia, and the impunity with which diluted sewage may be drunk, — are accepted as illustrations of our ignorance, rather than of the variability of natural laws. Theories which are only probable, and opinions based on mere authority, meet with little approval. The observations even of competent judges, are distrusted until they have been verified by others. Tradition obtains scarcely the homage of a respectful attention.

The exercise of a profession like that of medicine, — which, in its working capacity, enters every family, and is brought into relation with the weaknesses, as well as with the ambitions of mankind, — demands not merely a learned knowledge of health and disease, but requires comprehensive familiarity with modern civilized life, executive skill, and business habits, not inferior to those exacted by other technical occupations. Although the public is incompetent to determine the presence or the absence of scientific acquirements, it recognizes practical efficiency by many outward and visible signs. Education does not always carry with it the external indications which catch the fancy, and prove most acceptable to those who seek for counsel and assistance; but bearing and demeanor, while they hide as often as they reveal the actual traits of an individual, are almost invariably the secrets of his failure or of his success.

The physician, therefore, who aims at a prosperous practice, — accepting the fact, that his personal and domestic joys are at the mercy of a bell, — holds himself in good-humored readiness to meet the unreasonable, as well as the reasonable, exactions of all classes of people. He remains stoically indifferent, if need be, alike to sewing-circle animosity and admiration. He listens with the attention, which is readily mistaken for professional interest, to incessant and repetitious accounts of bygone maladies. Blessed with the magnetism of a calm deliberation of manner, and by that kindliness which enables him to put questions sympathetically, he perceives intuitively the kind of advice his patient desires, and a judicious response lies in wait for every complaint and inquiry. Familiar with, and believing in the latest materia medica, he promotes their recovery by carrying his patients with him in the sanguine conviction that all their favorable symptoms are connected with his treatment.

While far from being a high type of his profession, such a man, nevertheless, possesses superior qualifications for usefulness. He has the tact, and a ready appreciation of the effect words can produce, which make him a sort of infallible Pope with the victims of insignificant ailments, — ailments which can be easily inflated into perversions of health apparently so serious as to require perpetual attendance. He will endear himself to the deluded invalids, to whom sympathy is such a luxury that they cannot allow themselves even the semblance of recovery; to the middle-aged spinsters who delight in superfluous measures; to the mothers whose children rule the house; and to the credulous men and women who take medicine from force of habit, or for the want of some other engrossing occupation. More than all, because justly, he will be gratefully esteemed by a large and intelligent clientage, to whom his pleasant visits, and placid mannerisms, carry genuine comfort and a full measure of satisfaction.

Masters of the highest arts of practice, — to whom mere popularity is of small account, — are, on the other hand, rarely recruited from negative or effeminate men, or from those who are wanting in self-reliance. Strong qualities possess strong attractions, even if they also provoke strong dislikes. Defects are more readily seen than virtues. Colleagues will not always sympathize with plain-spoken opinions that diseases, which have been developing for years, cannot be got rid of, like evil spirits, by the exorcism of some potent drug. Clients are not quick to agree, with Emerson, "that the laws of behavior must yield to the energy of the individual," or slow to be provoked by lack of patience, by indifference, or by brusqueness of manner, even when they merely indicate the friction which is generated in striving, by persuasion, to induce people to do their simple duty.

In every social grade, however, there are, invariably, those whom the individuality of some medical man will please. There are men and women who do not wish to be fussed over, — who simply desire to be painstakingly advised, and, if necessary, intelligently dosed. They are not allured by deferential and insinuating manners, — which, Mr. James says, can be traced back to the struggle for existence, — and they look indulgently upon faults, if, beneath them, they can detect that sense which is so rare, but which is nevertheless called *common* sense, and an honesty, frankness, and good judgment which invite confidence. They respect the disinterestedness which resolutely convinces people that they are well, when they only imagine themselves sick. They value the discernment which eliminates non-essentials, and which is ready to suspect that a patient has no disease to cure when he says he cannot take this or that medicine. They realize the value of reserve in social intercourse, and appreciate the brevity of speech, — or, even, the ill-concealed dislike to answer questions, — which is born of a belief that error

[1] The following pages, prepared to be read aloud, must not assume a printed form without an avowal of the writer's indebtedness to a greater number of articles and individuals, than the absence of quotation marks, or references, might imply. An endeavor to acknowledge this obligation has been attempted in an Appendix.

lies in saying too much, rather than too little. Knowing their own ignorance of the manner in which a medical man must necessarily systematize his professional work, they see that he can, himself, best regulate the hour of his visits. Wisely perceiving that the interests of the practitioner are equally those of his patients, they willingly show consideration for the human nature which is in him, and, instead of dictating a line of action, amiably concur with his better methods for their relief. Bearing in mind that they can do much for themselves, they illustrate by their conduct the truth of the observation, that "few cases are so hopeless as those which refuse to get well; none so hard to kill as the people determined not to die."

If the rivalry of a crowded profession sometimes tempts men to practice a certain degree of humbuggery in dealing with patients, there is rarely any association between profitable trickery and wilful quackery. Practitioners who please their clients are rarely incompetent, nor do they deserve to be called charlatans. They are not the knaves whose fatal ignorance accentuates and fosters the philanthropic proposition that the State should protect the community from medical imposition.

The fact must be surely though sadly recognized, that the practice of medicine, by people who have not the appropriate knowledge for what they undertake, cannot be prevented by legislation. If we could prohibit those who publicly proclaim their clap-trap, we should still leave unsuppressed the grandmothers, mothers-in-law, maiden aunts, and neighbors, whose readiness to assume responsibility in sickness is equally devoid of any educated qualification; and one shudders to think what might happen if, even as a single result, their energies were turned from this innocuous if not beneficent channel by the strong arm of the law."[2]

Interference with a man's choice of medical treatment may be a violation of the "liberty of the subject;" but not on that account do I venture to express the belief that the public should be left to care for itself,— in this respect, as well as in most other matters. It is a dangerous experiment to meddle with the relations of the public and a profession. In any attempt to modify the attitude of those whose rightful privilege it is to treat human diseases with absolute freedom from restraint, it should be remembered how wisely it has been remarked, that "Science commits suicide when she adopts a creed." The saying will prove equally true of medicine, when, by legislation, different medical sects are recognized, even to gain a worthy end.

If the Commonwealth is to be asked to take a hand in medical affairs, the appeal should be made solely upon the ground that, as the State employs medical men for certain purposes, it may properly be asked to define the conditions on which it will accept service. It is for the good of the community that nobody should die without an official record of the cause of death: that in both civil and criminal cases the law should be able to summon persons whose evidence may be accepted as expert. A petition that the State shall declare how and from what sources such general services may be received, and who shall be allowed to fill the medical offices of its military and other public institutions, is a request to its law-makers in which all could harmoniously join. An enactment covering a reply to this inquiry should constitute the whole of the State regulation of medicine.

The profession, and not the State, must be the guardian of its own interests. "No elaborate law," says Virchow, in a recent utterance, "no code of ethics, will of itself serve to instil self-respect into the minds of those to whom it appeals, or to keep in check the overwhelming desire of notoriety by which the less scrupulous members of our honorable profession are too often actuated."[3]

No safeguard can ever entirely prevent the fatal mistakes and accidents of both druggists and physicians, which arise from imperfectly written prescriptions, or carelessness in the handling of medicines. The business of the druggist is a large and important industry, demanding the best intelligence, and nothing should be done to impair its efficiency. It is remarkable that grave errors are not more frequently made. Every physician has had reason, probably on more than one occasion, to thank the acute oversight and the good judgment of some careful apothecary, for the detection and sagacious counteraction of blunders in prescription-writing. As the dealer in medicines bears the burden of this important supervision, let him not be condemned if he occasionally prescribes chalk-mixture, or bromide of potass, over his counter.

It is the prerogative of this Society,— indeed, it is the great purpose of its existence,— to educate public opinion, and to promote and disseminate such knowledge as will make medical legislation, if there should be any, not only well-advised and enlightened, but serviceable to the community rather than to individuals.

Nothing has better illustrated the influence of an Association like ours, than its effective support of the concurrent public sentiment, which helped to bring about the demission of the Coroner, and the accession of the Medical Examiner. A reform in the existing method of obtaining what is called expert testimony, would equally redound to the credit of this Society, if it were procured by its aid and coöperation.

Judges, juries, experts themselves, alike condemn the manner in which medical evidence is, at present, admitted in the trial of civil and criminal cases. In this city, within a few months, a jury, immediately on retiring decided to throw out all the medical testimony presented for their consideration. The revision of a mode of procedure,— acknowledged to be defective, and for the faults of which a whole profession is disparaged and ridiculed,— ought not to be found difficult, when a tried system in Germany, and elsewhere in Europe, has shown how much more wisely than by us the matter of expert testimony may be managed.

Unhappily it is not always the aim of litigation to arrive at the intrinsic truth; and the objection of lawyers to legislation which, with the intention of securing only the best quality of evidence, shall take from them the choice of their experts, and place it in the hands of the courts, grows out of a fear that witnesses so chosen, might be too much imbued by a desire to substantiate the truth, and the truth only, to meet the wishes of those whose aim is simply to win their cases.

Justice is at a great disadvantage when there is no certainty that real experts are called by either party to a suit,— no assurance that their non-expertness will

[2] Mr. Huxley.

[3] Med. Times, Nov. 7, 1885, p. 633.

be shown up, if it exists,— and not always the conviction that they will testify without regard to the side which has summoned them. Counsel cannot be expected deliberately to call witnesses who would certainly, or even possibly, damage the cause of their clients.

That medical testimony should possess value, witnesses must be held responsible for what they say or state. The trustworthiness, and the relevancy of evidence can be thus controlled only when it is uttered in the presence of an *amicus curiæ*, competent to recognize the ignoramus or the pretender, and to keep both court and jury from being led astray by side issues, or blinded by irrelevant talk, or deceived by the advancement of theories, which, though they may be true, are presented in a partial, an imperfect, or an exaggerated manner.

The conclusion, therefore, is a growing one, that the appointment of experts, in our Commonwealth at least, ought to be made a part of the judicial function, and that their compensation should be fixed by statute, or by the court, and be paid out of the public treasury. By the adoption of such a plan, court-rooms would be relieved of exhibitions which are frequently discreditable and mortifying; and a recent action by the Bar Association of the City of Boston, encourages the hope that this reformation, which so distinctly concerns the dignity and the welfare of two great professions, will not be indefinitely delayed.[4]

The tenor of a physician's intellectual way of life follows the border lines of science, and leads him to breathe the atmosphere, at least, of learning. Wherever, and however, his lot may be cast, it devolves on him to maintain and promote some of the truths most important to humanity. Towns and rural villages, far and near, are, fortunately, not without the practitioners who do their own thinking, who are good observers, broad in their views, abundant in knowledge, efficient in emergencies — equals in ability to those whose city life may have given them greater opportunities, — and full of the salutary influences which sound opinions, and a high moral tone, exercise among all classes of society.

The art possessed by bees, of producing at will an individual with the requisite qualities for supremacy, has not, however, been acquired by mankind. Men become wise and learned, rather by the strength of their special inclinations, than by the compulsory stimulus of educational expedients. Personal ability, personal energy, peculiar tastes and habits of mind, are qualities which are growing in general estimation; and the opportunity for the exercise of exceptional talents and attainments increases with the growth of population and the material welfare of the country. In no profession is there a more fertile field for turning to account a great variety of accomplishments than in that of medicine; nor is there one in which the demand is so constant for strength of character, and for intellectual capacity above the average.

The fact that preliminary education is unsatisfactory and defective, and that the study of medicine is consequently begun at too low a point, creates a generally accepted conviction that the time devoted to it by medical schools is insufficient; and yet the practical necessities of a large majority of young men, prevent the prolongation of professional training, because this would advance their graduating age. In England, the student of the present day enters his hospital as a boy of about eighteen years of age; and it is declared hopeless to think of extending the term of pupilage,— for the average medical practitioner, at any rate,— beyond the age of twenty-two. In our own country, a still earlier maturity not only exists, but is expected. In spite of this, however, the average age of graduation in the Harvard Medical School is more than twenty-four years and a half. A system which matures its fruit so tardily, must tend to make educational institutions for the few, rather than the many. This would not be a regrettable consequence if it were the ultimate object of medical teaching to turn every student into a professor, or if a special degree of Doctor Scientiæ Medicinæ, with all that the title implies, were the outgrowth of such a tendency.

There is but one remedy for too short a course of study,— which might be judiciously, though not easily extended,—and for graduating at an age which is too old, — and that is, to lengthen the curriculum backwards into the preparatory years by requiring better qualifications to begin with.

The well-deserved reputation of the Harvard Medical School,— largely added to by its early abandonment of traditional and imperfect methods of instruction,— is still maintained by the energy and enterprise of a Faculty, many of whose members, practically, give their whole time to teaching. Acknowledged to be a source of pride by the profession throughout the country,— by the city in which it has its home,— and by a community which has always greatly respected the calling of medicine,— it will be in no censorious spirit that I allude to two or three points of interest, having reference to still further improvement in the educational system of a school upon which this Society's usefulness pre-eminently depends.

Admission to the Harvard Medical School now requires the applicant to pass a "satisfactory examination in English, Latin, and Physics, and some one of the elective subjects, Botany, French, German, the elements of Algebra, or of Plane Geometry." If, instead of this, a knowledge were alone demanded of the elementary, but comprehensive, principles governing the action of living things, and which are the substrata of human anatomy and pathology, a great gain would be made. The familiarity of students with natural science, especially physiology and biology, and the manner in which they pass their examination therein, might easily decide, not only the fitness of candidates to begin the study of medicine, but also test their proficiency in English and classical subjects.

It was the great aim of Professor Agassiz here, as it has been of Professor Huxley in England, to make young people good observers, and to convince them that attention, memory, and observation, are not only serviceable and remunerative, but always attainable attributes. It should be a chief endeavor of any instruction intended to precede that of a medical school, to cultivate the tactile, visual and auditory senses, and to beget an early conviction of the value of precision.

Studies, therefore, which involve the logic of actual facts, can only be pursued to advantage where they are taught practically, and with a thoroughness which precludes the possibility of cramming. They must be made revelant to, and in harmony with, the subsequent

[4] Appendix I.

education, which (it is complained) now usurps too much time, and is needlessly difficult, because previous discipline has so little prepared a ground-work for its reception.

Schoolmasters may say that it is waste of time to teach science as they are compelled to teach it; but the means of carrying into effect some plan of primary scientific schooling can surely be perfected, if it is called for; and if details interpose obstacles, patience and experience must overcome them. Eventually, such instruction will be organized as well as,— better than, I trust,— classical teaching has been hitherto, and High Schools, at least in all cities and large towns, will become competent to fit young men for the study of medicine. The practical character of the age is gradually eliminating from education, many of the special processes by which the intellect was formerly developed. Various kinds of laboratory and experimental work are already urged upon all, — and adopted by some,— preparatory schools, as optional for pupils to whom a large amount of Latin and Greek does not offer the intellectual discipline or equipment which they are aiming to obtain.[5]

Harvard University is active in the effort to make natural science an attainable and profitable study. In the interest of those intending to become medical students, electives in anatomy and physiology have been asked for in its academical department. The Massachusetts Institute of Technology, and the Johns Hopkins University, have already established courses introductory to the study of medicine. These are wise, tentative endeavors,— even if rudimental and inadequate,— to provide instruction which shall save, by anticipation, much of the labor,— and, therefore, much of the time,— now connected with the acquirement of a professional education.

I cannot but think that compulsory attendance on the same course of instruction, for two or three successive years, would be an advantage in certain branches of study, and above all, in anatomy; because, from beginning to end, anatomy consists of intricate details. These are difficult to grasp mentally. Many require to be memorized, and the knowledge of them is worthless if not exact.

Furthermore, if the studies of Anatomy, Physiology, and Therapeutics could be arranged with maximum and minimum requirements, the separate grades into which students are inevitably divided would find the measures of their differing capacity better filled. Time and money could be expended to more permanent advantage if there were both prescribed and elective courses in each of these departments, in place of the present exaction of equal and uniform proficiency from all pupils. The aims of individual ambition would also be more securely gratified; and the hours available for obtaining practical acquaintance with the phenomena of disease, or for special subjects of study, both by teachers and advanced pupils, would be supplemented to an extent not heretofore possible.

In this connection, I venture to suggest that, if examinations should attack learning less on its intellectual side and more on its practical side,— as might be the case if they were not so generally conducted in writing,— knowledge would still be as exact, while the examinations themselves would not be the educational regulators (it might almost be said, the despots) they now are. Though we may not follow the example of universities under other surroundings, and adapted to other needs, we can put in practice the business methods of American requirements, without lowering the standard of liberal and productive scholarship.

I have no hesitation in saying that teaching of medicine and surgery by set lectures only, or even largely, is unsuited to the wants of learners, and is already recognized as antiquated. To justify this assertion, I need but refer to the sentiment of medical teachers in London, and to the comparable illustration which is furnished by the Law School of Cambridge. The disappearance of systematic didactic lecturing and the substitution of corresponding tutorial instruction,— if the difficulty as to the number of teachers and the expense of such a system could be met,— would be, radical as it seems, a most progressive step in education. Books and lectures may make scholars, but not practical physicians. American students add to their course of study a year in Europe,— not because the hospitals are larger, or the knowledge of teachers greater than in their own country,— but because, in small classes, under the immediate guidance of a first-class instructor, they can see and demonstrate every fact for themselves.

The existence,— side by side with its University Faculty,— of what is called an Extra-Mural Medical School, accounts in great measure for the attraction which Edinburgh has offered to students of Great Britain during recent years. The generous rivalry, which the tutorial character of such a school generates, cannot but inspirit the neighboring university; and it should be realized in America, as it is in Scotland,— and as it also is in France, in the *enseignement libre* of its *Ecoles Pratiques*,— that no policy could be more short-sighted than to discourage competitive teaching which exercises so healthy a stimulus, or to restrain pupils from obtaining, wherever they may think their interests are best met, that instruction which is to carry them through their examinations.[6]

There are misgivings here,— and they are equally strong elsewhere,— as to the influence upon the practical education of young men which is exerted by the Training Schools for Nurses, now so popular and so numerous.

An interested and superior class of young women, who bring great enthusiasm to their work, are instructed, by teachers of the highest grade, in Anatomy, Physiology, the Theory of Wounds and their antiseptic treatment, Fractures and the use of Splints, and Bandaging, in all its refinement. They are taught how to observe symptoms, count pulses, take the temperature, judge of doses, if not of drugs, and to prepare systematic written reports of cases. Purely medical subjects, such as Dropsy, Rheumatism, Erysipelas, Gangrene, and Diseases of the Eye, are included in the list of lectures given at one of the oldest of these institutions.

Many of the duties which are now delegated to nurses in the wards of the hospitals where they obtain their training, are such as physicians have heretofore attended to personally. In private practice they are encouraged to regard certain details of domestic labor, on which the welfare of the sick depends in no small degree, as menial, or inconsistent with the "elevation

[5] "Jesse Foot accuses me," said John Hunter, "of not knowing the dead languages; but I could teach him that on the dead body which he never knew, dead or living."

[6] Appendix II.

of their calling." Their social status in the family by whom they are employed, is a constant source of trouble. Practical experience leads many to the conclusion, that as a nurse advances in special knowledge she proportionately retrogrades in the efficient discharge of the minor duties and drudgery, which, after all, are the chief requirements of her occupation.

Experienced training school pupils become so familiar with many manipulations and points of practice, that hospital students give way to them, partly from a too common *vis inertiæ*, and partly from a fear of showing themselves less skilful; but, more than all, from the idea that time cannot be profitably spent in learning the minutiæ which belong to the subordinate occupation of nursing. Nor is this impression confined exclusively to hospital pupils, or those interested especially in surgery. It extends unwittingly to students of all degrees and preferences, in and out of hospitals, and to physicians as well. Dependence on nurses for information about the patients "under their care" (as they say), blunts the young practitioner's own observation, lessens his attention to particulars, and deprives him of the experience and the education which come by doing things for one's self.

There is no reason why a nurse should not be interested in purely medical subjects. Her experience is of the same kind as that of the physician, — in certain cases even greater in its opportunities, — and it is too much to ask that she should pay no attention to the medical aspects of disease; but the fact must not be lost sight of, that, at the present time, intelligent women have the choice before them of being either nurses or doctors, and that they cannot be both.

The needs of sick people, so far as the requirements of the sick room are concerned, are of a nature which women alone can satisfy. The present system has been brought about by the aid, if not by the instigation, of physicians. Admirable in many ways as its results are; greatly as trained nurses contribute to the comfort of patients, physicians, and families; in spite of the fact that nursing takes a higher stand, for the very reason that drugs, outside of a few specifics, are less and less depended upon, — it would be a misfortune if the existing method of teaching nurses should tend to lift them out of a position, — servant-like though it must be in many respects, — which it is a womanly privilege to fill, and one not unworthy of female ambition. It would be still more deplorable if their training should bring female nurses into collision with physicians, either of their own or of the other sex; or if, by their too near approach to the same lines of study, the zeal of medical students should be diminished. Worst of all misfortunes would be the creation of an unexpected hybrid, neither servant, nurse, nor doctor.[7]

The study of the phenomena of life, — and therein lies the whole of science, so far as the business which engages our attention is concerned, — has exercised a great influence in promoting truer estimates of disease and wiser methods of treatment; but a just and natural proportion should be maintained between that part of our pursuit which is purely scientific and that which is practical. If one is in danger of being prosecuted at the expense of the other, it ought not to be the latter.

The lack of practical knowledge on the part of a physician, otherwise profoundly learned, may cause an immense amount of suffering. It may give an impetus to disastrous epidemics. Hesitancy to command the isolation of a single case of measles or scarlatina, — or delay in so doing, — subjects a family, a school, or a community, to the peril of an epidemic more dangerous than the small-pox. His finger-nails may communicate a fatal poison, through the trivial operations of surgery which every one undertakes to perform, or inaugurate the "private pestilence" which still sometimes follows in the track of the obstetrician. The increasing frequency of non-union in fractures, if I can trust my own observation, shows that they are not so skilfully treated as formerly. The acne of an emigrant, it is said, has quarantined an ocean passenger steamer. Within the past year, in a town with the organization, resources, and appliances of 8000 inhabitants and 13 physicians, an outbreak of typhoid fever reached the extraordinary proportion of 1200 cases in one month, 500 occurring within the first ten days after its irruption. Through this outbreak 300 families were made dependent on charity at one time, and 107 lives were sacrificed. The extra expenditure by the sufferers was $60,000, besides an equal amount lost in wages through enforced idleness. Starting from a single typhoid patient, whose accumulated evacuations suddenly gained access to the town's aqueduct, the germs of disease were disseminated with great rapidity along the line of water distribution; but the differences of medical opinion, as to the origin of the trouble, were at first so great that no prompt restrictions were placed upon the use of the drinking-water, though it was suspected from the outset of being the medium of conveyance for this terrible affliction, ending in such unnecessary loss of life. Subsequent developments proved the suspicion to be well founded, and the number of suits brought against the water-company by the relatives of those who died, indicates the prevalent impression that this epidemic, like so many others, might have been prevented by intelligent vigilance.[8]

Ignorance of certain groups of diseases is acknowledged and confessed by every honest physician. The rapid accumulation of facts in all departments of medical research is beyond the comprehensiveness of a single mental grasp. There are anatomists and physiologists who have never set foot within a hospital. The International Medical Congress, with its twenty or more sections, is an illustration, as well as a recognition, of distinct demarcation in the lines of professional study.

Almost without exception, such sub-divisions are concessions to convenience, and owe their existence largely, and perchance unfortunately, to considerations connected with the treatment of disease. In nearly every instance, they represent departments of operative surgery, in which particular skill or special manipulations are required; and their technical element, often reaching the highest refinement, has exercised a great influence in advancing the art of medicine. But they have also abetted a mistaken tendency of public belief, that elaborate division of labor must necessarily be as useful and successful in a learned profession, as it is in the mechanic arts.

Old-fashioned practice, — that is to say, the practice of thirty or forty years ago, — looked on specialism as

[7] Appendix III.

[8] Appendix IV.

an innovation of doubtful respectability. Sick people were then regarded as private property, and poachers were punished if they intruded on personal preserves. To-day the assumed right to deal exclusively with the diseases of special parts of the body,— generally those beyond the sick man's own range of vision,— is no longer regarded as presumption, or a violation of ethical rules. Patients, even, exercise the prerogative to be their own judges, both as to the nature of the particular disorder from which they think they suffer, and of the remedy it requires.

It is also asserted that the empire of the general physician and surgeon is crumbling away, and that his dirge is being chanted. The *personnel* of a general practice is said to change entirely in about the same time which it is popularly supposed to take for the renewal of the combined atoms of the human body; and the family doctor,— once a fixed and immutable institution,— finds it his office, now-a-days (it is cynically declared), solely to decide what specialist shall be summoned, and must count himself highly favored if subsequently invited to listen to the opinion obtained, or lend his assent to the treatment prescribed. "Specialism," we are told, by its recent vindicator, "being a movement founded on the true principle of progress, and in harmony with the general 'stream of tendency' in these days, will gain strength and volume as it advances, sweeping away, in its victorious current, all the rubbish of pedantic prejudice and malicious bigotry that formerly defiled its waters, and hindered their flow."

There can be no denial of the fact, that whoever, in addition to his general requirements, knows more about some particular thing than any one else,— or at any rate, can do some special work pre-eminently well,— has a decided advantage over his fellows; but the suggestion that all diseases of the body, and not merely those of its inlets and outlets,— even though they are beyond the reach of mirrors, aspirators, or sounds,— must be put in the same category with ailments of throats and ears, and reveal their secrets hereafter only to the sharp observation and skilled insight of specialists, is one which will hardly be conceded at present. With all the facts before them, enthusiastic students and workers still deliberately select the broad roads of general medicine and surgery, in preference to the narrow and possibly devious paths of special practice, though the latter may lead to speedier pecuniary success.

The human body is made up of parts and functions so thoroughly inter-dependent, that it cannot be parcelled out into defined and isolated regions. Let me illustrate this self-evident statement by quoting a post-mortem diagnosis, made by Professor Fitz, and taken absolutely at random from the Autopsy Book of the Massachusetts General Hospital. It reads as follows: "Chronic Pneumonia; Suppurative Pyelitis; Chronic Perimetritis; Hæmatoma of Ovary; Ischio-rectal Abscess, with Perineal Fistula; Chronic Typhlitis, with pseudo Polypi; Gangrenous Ulceration of Vermiform Appendix; Granular Degeneration of Liver and Kidney." The patient, with this appalling pathological conglomerate as his record, was one who, if alive, would have sought the advice of a specialist in diseases of the chest, and none other.

Despite all arguments drawn from expediency,— despite the difficulties encountered in the mastery of details, by any physician who has not had a special training,— one such case as that just alluded to emphasizes the assertion, that he who has the most comprehensive knowledge of the human organism and its disorders is, with certain well-recognized exceptions, best able to determine what is the matter with any given part of it, and so to help its unlucky owner to recovery, either through his own practical skill, or his ability wisely to select the colleague whose attainments may permit him to deal better with the case than he can. This object will not be less readily achieved if the practitioner acknowledges the limitations of human understanding, and the immaturity of medicinal therapeutics; or if he believes in the maxim that "the best physician is he who can distinguish what he can do from what he cannot."

Greater refinement in the distribution of medical practice is not likely to carry its analytic tendency beyond the present separation of physicians into a few distinctive and somewhat inclusive classes, drawing from a common fountain of knowledge, and maintaining the integrity of their profession, by the essential identity of science in every department. Accurate and familiar acquaintance with the applied laws of the latest medical learning is required in these days, as a part of the most limited professional outfit. The merest practitioner equips himself with this resource, in the same matter-of-fact way that he buys a thermometer or a stethoscope. Without it he can scarcely take part in the present competition for wealth, influence, position, and advancement. But skill in diagnosis will always remain the important practical part of a physician's business. What is the matter with a patient must be the fundamental problem which presents itself for his consideration, and the more he lays emphasis upon methods of treatment, the greater will be his danger of an approach toward empiricism. Increase of competition may place our successors under a mighty temptation to think, as the French epigram puts it, that "there are no such things as diseases, but only patients"; and make them forget that medicine is a profession, not a trade. It is to be confidently hoped that the growing efficiency of medical education, with its broad and intelligent training, will encourage a higher standard of self-respect than is implied in such a misgiving.[9]

(To be continued.)

Original Articles.

YELLOW FEVER IN BRAZIL. FREIRE'S INOCULATION.[1]

BY H. M. LANE, M.D., BRAZIL.

THE etiology and pathogenesis of yellow fever, its contagiousness, geographical limits and treatment, are questions that have vexed the medical mind for two centuries, and a vast literature has grown up second in extent only to that of *malaria*, without definitely settling a single essential point.

The object of this paper is to give a few facts growing out of a long residence in Brazil, as the result of personal observation and experience, and rather of general interest than of a strictly scientific character, though most points will barely be referred to.

Concerning the birthplace of yellow fever, it has been claimed that its *home* is the West Indies, and that

[1] Extracts from a paper read before the Kansas State Medical Association, at its annual meeting, Atchison, May 19, 1886.

[9] Appendix V.

it is the outgrowth of certain conditions found there permanently, — of heat, moisture, putrefaction, etc., and that it may arise *de novo* whenever these conditions obtain: This is theory; the facts are that fever was never known in the Western World prior to the arrival at Martinique of the French ship "*Oriflamme*," in the latter part of the seventeenth century,[2] coming directly from Siam, and the disease described by the writers of that day as the "*mal de Siam*," a name which it bore for half a century. It is true that since then it has never been absent from the Northern coast of South America, the Islands of the West Indies, and the shores of the Gulf of Mexico.

In December of 1685, a fearful epidemic broke out in Pernambuco, known as the "*epidemia da bicha*," which carried off more than two thousand persons the first year. A Portuguese vessel had returned from St. Thomas bringing some barrels of putrid meat, which were opened by a cooper who, on inhaling the infected air, was seized with sudden illness, taken home, and died in a few hours; from him the disease spread to the members of his family, who all perished, and from this house to the entire city and to the cities of Olinda and Bahia. It has been claimed that this was yellow fever, though Rosa[3] speaks of it as a *pestilential typhus*, and the minute descriptions of Rocha Pitta[4] correspond rather with ship fever than yellow fever. After two years it entirely disappeared from the coast, where the conditions for the development of yellow fever are quite as good as in the West Indies. It is therefore safe to infer that the disease at Pernambuco was not the yellow fever which we know to-day, and we may conclude that the spread of true yellow fever from the Northern extremity of South America where it undoubtedly existed, southward, was prevented by the barrier which the waters of the Amazon interposed.

It is reasonably certain then that yellow fever made its first appearance on the coast of Brazil in October, 1848, where it can be traced to the American brig Brazil, arriving from New Orleans direct.[5]

In December of the same year it was carried to Rio de Janeiro by the Brazilian steamer *D. Pedro*, and we find the first death recorded on the 27th of December, 1848. In 1849, the disease broke out in a severe form and from December, 1849, to May, 1850, there was in Rio Janeiro an epidemic which is without parallel in the history of the disease. Upwards of five thousand deaths being recorded, and it is probable that half as many more escaped notice, in the terror and confusion incident to such a reign of death.

From that date until the present day yellow fever has never been absent from Rio Janeiro and rarely from any of the principal sea-ports between Santos, three hundred miles south, and Para, on the equator, a coast line of over two thousand miles.

Preparations for the "*approaching epidemic*" are made in Rio, with as much regularity and it is looked forward to with as much certainty as the summer solstice.

As the hot weather approaches, the more favored classes seek the cool heights of Petropolis, Nova Friborgo, Therisopolis, and the high plateaux of the interior, while the employés of commerce, the laboring classes, and those connected with shipping, remain to face the disease as best they may. Among the working classes those who are most exposed to the sun or other heat are soonest attacked, as sailors, cooks, smiths, etc. As in our Southern States, the negro enjoys immunity as a rule.

Recent arrivals from whatever source fall early victims to the disease. During the present year the mortality among very young children was unusually great; this may be regarded as one of the vagaries of the disease. Among foreigners those who commit excesses in *Baccho et Venere* rarely escape.

Its environment. The city of St. Sebastian on the river of *January* (a literal translation of its name) commonly called Rio de Janeiro, is perhaps the most beautiful in the world, and, from its situation among the foot-hills of the Coast range, surrounded on three sides by the magnificent bay of Rio, also famous for its picturesque beauty, fanned by perpetual breezes, from the sea by day and land by night, barely within the line of the tropics, should be one of the healthiest. The tall peaks of *Fijuca* and *Corcovado*, stand at its very gates on the south, furnishing on their slopes and approaches, cool resorts of easy access, while in the very heart of the city half a dozen hills furnish an excellent refuge from the heat and smells of the lower town. Still, the scourge remains, and its spectre drives emigration from the fairest and most fertile shore of earth.

The force of an epidemic is usually spent in those portions of the shore line that are cut off from the sea-breeze by intervening hills, and in the low, flat districts, densely populated, that stretch back from the sea front and are also deprived of the sea winds and have poor hygienic surroundings.

The sanitary appointments of Rio have been immensely improved during the past twenty years; privies and intra-mural burials have been prohibited, an expensive and elaborate system of drainage adopted, and just in proportion as the hygienic conditions have improved there has been a corresponding decline in the violence of all epidemic disease.

Through some radical defect in the main, the drainage works are notoriously inadequate, but those who remember the old days of the *Cabunge*, when the excreta of the city was brought in wooden buckets and dumped into the bay in front of the city are not inclined to grumble.

The supply of palatable water is also inadequate, and a water famine has been threatened several times.

The old habit of converting every convenient corner into a latrina still remains, and the air of certain localities is laden with the odor of decomposing urine.

On the whole, however, the sanitary appointments of Rio, with its four hundred and fifty thousand souls, are superior to most of our own large cities.

The importance of yellow fever as a factor in the country's prosperity may be seen from the number of deaths during the ten great epidemics:—

1850	5,340 deaths	1878	1,291 deaths
1852	2,165 "	1876	3,820 "
1860	1,449 "	1878	1,178 "
1870	1,271 "	1880	1,760 "
1873	3,790 "	1883	1,650 "
	Total, 23,714.		

The ten years of next greatest severity show an aggregate of seven thousand six hundred and thirty-one deaths. It would be safe to say that these figures

[2] Moreau de St. Mery. Descrip. Typ. et Phys. de S. Dom., quoted by Carpenter.

[3] Trat. sobre a febre pestilential de Pernambuco por Joan Ferreira da Rosa, Lisboa, 1694, page 12, et seq.

[4] Hist. Am. Portugues, por Rocha Pitta, Lisboa, 1727, pp. 214, liv. vii.

[5] Consular Reports, 1850, and documents in the Archives of Provincial Government at Bahia.

are at least thirty-three per cent. under the real numbers. The years of greatest mortality correspond to the seasons of *greatest heat* and *least rain-fall*. A hot, dry season is sure to bring an epidemic, a heavy rain or a cold "*Souther*" during the prevalence of an epidemic is sure to cut it short.

Another fact worthy of note is that yellow-fever and all forms of endemic fever run in parallel lines, as the table of comparative mortality for the last three years will show:—

	1883	1884	1885
Yellow Fever	1,650	618	574
Pernicious Fever	760	426	345
Typhoid Fever	190	157	106
Other Malarial Fever	392	135	193

This proportion will hold good for all the years of which we have a record. Malarial fevers do not, however, tend to merge into yellow fever, but rather to give immunity from it. This leads us to believe that, in some way, the development of yellow fever depends upon the same general causes which produce other fevers, and that while there may be, and doubtless is, a specific germ, upon which each depends for its individuality, at the same time, the prevalence of either as an epidemic must depend largely upon the "environments."

It would be out of place to discuss the question of the *contagiousness* of yellow fever until some exact definition of the term is accepted, and the precise relation which it bears to *infection* is made clear.

The months in which yellow fever prevails most are December, January, February, March, and April. In 1885, however, its greatest mortality was in *May;* in in 1883, one-third of the total number of deaths was in April.

The total number of deaths from all causes in Rio in 1884, was 9,732; the total number of deaths from all causes in Rio in 1885, 10,182. Of these, in 1884, 636 were still born; and in 1885, 793 were still born. In the early epidemics, the rate of mortality in yellow fever was as high as seventy-four per cent.; recent years, it is about thirty-three to fifty per cent. in epidemics, and much less in the *sporadic* years, averaging not more than sixteen per cent.

The largest number of deaths from any one cause is found to be from *pulmonary consumption*, last year being 1884, nearly twenty per cent. of the total mortality. The three greatest causes of mortality on the whole Coast, from Santos to Pará, are: *pulmonary consumption*, *beri-beri*, and *yellow fever*, in the order given.

It is a fact, however, that yellow fever, standing third in the list, inspires a terror which is felt for no other disease, and probably exerts an influence for evil on the commerce of the country, its material development, and the advancement of social interests, greater than all other diseases combined. There is no interest of society to which it is not inimical: hence the anxiety of the government to root it out or devise means for controlling it.

Dr. Freire's investigations are already so well known, that anything more than a mention of his work is unnecessary. He does not exactly claim to have discovered a new germ, but simply that he has, from the granular elements already noticed by Rhees in 1820, Hassel in 1853, Alvasengu in 1856, and Jones in 1873, in the blood and other fluids of yellow fever patients, succeeded in isolating, defining, and determining the exact character of a micro-germ, which he calls the *cryptococcus xanthogenicus*, whose causal relation to the disease he has demonstrated, through a series of carefully-conducted experiments, in the clearest manner. Dr. Freire's work was commenced in 1878 or 1879, and in 1880, he published a full statement of the results obtained, and his mode of obtaining them.[6]

In 1883, obeying the mandate of his government, he extended his researches to discover some means of utilizing the work already done for a preventive vaccination, after Pasteur's methods. The whole story of his success, how he discovered animals that possessed the requisite receptivity, the cultivation and successive attenuations, is told, and well told, in his "*Doctrine Microbienne*," a book of six hundred and thirty pages, where every step of his work is described and illustrated; published in Rio in 1885.

He commenced his inoculations of the pure culture at once, and in January of the present year, published his "*Resultats Statistiques*," detailing 3,051 inoculations from January to August of 1885, without a single death. He shows that in the immediate neighborhood of these cases, 278 *non-inoculated persons* had died of yellow fever, while not a single inoculated person had perished.

His inoculations now reach nearly 7,000. During the present epidemic I was in Rio, and took occasion, personally, to follow up a large number of the inoculations reported, and during a whole week, with the assistance of friends, I was unable to find a single well-authenticated case of an *inoculated person* dying of yellow fever; but found numerous instances where persons *not inoculated*, living in the same yard, and sometimes in the same house, with those protected by inoculation, *had contracted the disease and died*. These facts have some significance. My own experience with the inoculation is not without value.

I arrived from the cool mountain region on the 16th of last March, during the prevalence of an epidemic of yellow fever, in perfect health. At eleven o'clock the next morning, Dr. Freire injected into my left deltoid one gramme of his pure culture of the yellow fever germ, the twenty-second attenuation. At 5 P. M., I had a slight chill, followed by a feeling of general discomfort, nausea, frontal headache, pain in legs and lumbar region, the temperature going up, with corresponding acceleration of pulse, until at 2 o'clock, A. M. of the 18th, it reached 102.7°, which was the highest point reached. At this time, I went asleep and slept two hours, when I awoke perspiring; the pulse and temperature gradually declined, until at 7 P. M. they had reached normal. Headache and other symptoms also left, leaving me, on the morning of the 19th, a little weaker than usual, without appetite and with a furred tongue, and skin slightly jaundiced. There was an almost complete suppression of urine for twenty-four hours. The restlessness, the hot, dry skin, the thirst, nausea, headache and muscular pain, were all characteristic of the first period of yellow fever.

During the next week, I was constantly exposed to the disease in the infected districts, among yellow fever patients, without further trouble. It is worthy of note, that a friend coming from the same place as myself a few weeks before, and passing a single night in Rio, had taken yellow fever and died.

Numerous instances might be cited during the present epidemic, where people, particularly foreigners,

[6] "Recherches sur le Cause, la Nature, et le Traitement de la Fièvre Jaune."

coming down from the mountain resorts and passing one or two nights in Rio, have contracted the disease and died.

It is reasonable to claim that my own case is a fair proof of the protective power of the inoculations. Now, whatever scientific value may attach to the experiments of Dr. Freire, whether the germ he cultivates be or be not the essential cause of yellow fever, or whatever may be the nature of the fluid he uses in his inoculations, and whatever the relation which his cryptococcus xanthogenicus or any other micro-germ may bear to this disease, we have here certain unchallenged facts which all fair-minded men must consider. There are nearly 7,000 vaccinations, with name and residence of persons vaccinated given, and the unanswered challenge for any one to produce an instance of one of these cases dying of yellow fever.

The patient, untiring zeal with which Dr. Freire has pursued this difficult subject for the past seven years, his great ability, his unquestioned integrity, and the unrivalled facilities he has had, as well as the vast importance of the subject, all join in demanding for his claim respectful attention.

No argument based upon theory, no display of cheap rhetoric, no indecent exhibitions of professional jealousy, should be allowed to stand in the way of a searching examination of the value of these alleged discoveries. If true, their value to our Gulf States cannot be estimated in dollars and cents; if not true, it is due to the people of this country that they be fairly disproved.

Drs. Freire and Carmona have both made out a strong *prima facie* case, and to attempt an argument on the supposed difference between the germ claimed by Freire and the one presented by Carmona, is both weak and wicked. The rapid changes which these micro-germs undergo in completing the cycle of their existence is well known to bacteriologists — their extreme sensitiveness to the media in which they develop, the relation of the names usually given to the form, rather than to the essential character of the germ, all go to show how little real importance attaches to the point. The comma bacillus of Koch may be produced by the segmentation of the spirilla, and might be called by another name without at all disturbing its relations to the diseases with which it is taught to connect it.

It is to be hoped that all questions of party, and all professional differences will be laid aside, and Congress be urged to pass the bill now pending, which has for its object not the support of any theory, but a fair investigation of the truth or falsity of certain claims which affect the prosperity of the whole country.

RECENT PROGRESS IN DENTISTRY.[1]

BY WILLIAM HERBERT ROLLINS.

DANGER OF PULPITIS FROM THE USE OF GUTTA-PERCHA AS A PULP CAPPING.[2]

The writer claims that this material expands so much, that when used over a pulp, under a metal filling, it creates enough pressure to kill the pulp.

CYSTIC TUMOR OF THE ALVEOLAR MEMBRANE.[3]

The patient had been treated by one physician for gout, by another, for an obscure liver disease, but in each case, without relief to the symptoms, which were intense pain over the face, scalp, and occiput, extending down the spine as far as the last ribs; and upon the neck, as far as the bifurcation of the two heads of the origin of the sterno-mastoid muscle. The pain was worse at night, and about half an hour after meals, at which latter time the stomach became tympanitic, impeding the movements of the diaphragm to such an extent as to cause alarming dyspnœa. An examination of the mouth showed nothing abnormal in its appearance. On a more extended examination, the resistance offered by a first upper molar to pressure, was found to be slightly different from that of the other teeth. On this slight hint, the tooth was extracted. Attached to the root, was found a hard, slightly vascular tumor with three lobes, which projected into the antrum. As the result of the extraction, all the symptoms disappeared.

LOSS OF SENSATION IN THE GUMS AND LIPS AFTER TOOTH EXTRACTION.[4]

The patient, a surgeon, in the course of five years, had three teeth extracted, following which, in each case, there had been loss of sensation in the gums and lips, from the angle of the jaw forward to the median line. Sensation gradually returned without treatment, and was fully re-established in three months.

CHRONIC PTYALORRHŒA OF THE GLANDS OF THE ORAL MUCOSA.

This disease has not been clearly recognized, though to the effects which it produces upon the teeth several names have been given, beginning with John Hunter, who mistook one of its symptoms for a distinct disease to which he gave the name "decay by denudation." This name is still in use, and other and more recent writers have farther withdrawn attention from the real disease by giving the names "surface wear," "erosion," "denuding," "chemical abrasion," to its effects upon the teeth.

The only treatment which the writers who have used these names have suggested, has been either to do nothing, or, when the effects upon the teeth have been extensive to fill the cavities with gold.

Ptyalorrhœa shows itself chiefly in an increase in the amount of the secretion of the acinous glands of the lips and cheeks. Accompanying this increase in amount is an increased viscidity and slight acidity. Even in those cases where the effect upon the teeth is very rapid there is seldom a marked acid reaction in the secretion. This faint acidity explains why the grooves in the teeth almost always are smooth, as if polished; indeed, many writers mistaking the real cause of the trouble, have attributed the grooving of the teeth to the effects of a stiff brush in cleaning them.

There are cases where caries supplements ptyalorrhœa in which the starting point of the caries is due to the intensity of the ptyalorrhœa, the evidently softened tooth substance not being removed as rapidly as formed; thus affording a culture ground for germs which produce the usual results, caries. These cases are chiefly those of the channeled form, in which the

[1] Concluded from page 514.
[2] Brit. Jour. of Dental Science, October, 1885.
[3] Harris in Brit. Jour. of Dental Science, p. 894, 1885.
[4] Glassington in Dental Record, p. 193, 1886.

effects upon the teeth consist of grooves across the teeth near the necks.

Ptyalorrhœa is an entirely distinct disease from caries. In most cases it is a local expression of some ill-defined constitutional condition or conditions. In a less number of cases it is sharply local. Its effects upon the teeth show themselves in at least three forms. In a general wasting away of the teeth; in transverse channeling of the teeth at their necks; by the formation of saucer-shaped cavities upon the labial surfaces of the teeth. This last form attacks the canine teeth often before any others. This fact, together with another, that pulpless teeth are as much affected as those having living pulps, tend to show that the effects upon the teeth are not due, as has been suggested, to a retrograde metamorphosis in which the wasting of the teeth is produced by an absorption of the lime salts by a new cellular growth. In one of these cases there is no living tissue from which the cells could come, while on the other hand it is not likely that if this were the true explanation the canine tooth which is the strongest tooth would be attacked first. In the cases in which the cupped or saucer shaped cavities are formed on prominent portions of the labial surfaces it is often easy to see the effect of the glandular congestion; the orifices on the mucous membrane occupying the centres of little raised papillæ of a deep red color. If the surface of the membrane is dried, only a few seconds will elapse before it is studded with little pearls of secretion, acid to litmus paper. In an ordinary condition of these glands a minute or more would elapse before any secretion would be observed, nor would the reaction ever be acid except perhaps early in the morning. It is an open question whether the action of the parotid secretion and also that of these glands may not be normally acid for a short time before rising; whether this transient acidity is due to the same acid or acids that are present in the pathological conditions named is not known. Treatment, where the disease is simply a local manifestation of an undetermined constitutional condition, we can give alkalies as these at least diminish the local effects upon the teeth, though this treatment may be only palliative.

In those cases where the disease is evidently due to an overworked condition of the patient, as is frequently the case in nervous children, these alkalies are of great value, as they improve the condition of the digestion. A large number of cases of ptyalorrhœa of this kind have been cured in a few months by this treatment. In other cases where gout is responsible for the trouble this treatment is also of value.

Local Treatment. This should consist of the daily use of astringent and alkaline mouth washes. Where the disease is evidently local and confined to a few glands these may be partly broken up by tattooing, or the use of electrolysis may be suggested.

FUNGI FOUND IN THE HUMAN MOUTH.

Miller [5] has found twenty-two fungi in the human mouth. Ten of these are micro- or diplo-cocci. Five are bacteria, and six are bacilli. In liquid media three develop into leptothrix, one into spirilli; eight are motile, while only three have been seen to form spores; the others multiplying only by division. Ten are strictly ærobian, four not strictly ærobian, and eight grow equally well without air. Sixteen produce an acid reaction in beef extract and in sugar; four produce alkaline reaction. In all cases where the acid produced was tested it was found to be lactic acid. His conclusions are, that a great majority of the fungi found in the human mouth are capable of producing acid from cane or grape sugar but in non-fermentable substances the reaction produced is alkaline. In those cases where the fungus produces both an acid and an alkaline reaction there are two processes going on, first the nutrition of the organism accompanied with an alkaline reaction; second, the fermentiveaction accompanied by acid products. A large number of these fungi possess a peptonizing action which accounts for the solution of the dentine after it has been decalcified.

Any of these fungi that can produce acid by fermentation of carbo-hydrates, or can dissolve the decalcified dentine may aid in the production of caries, while only those which combine both of these properties, can produce the disease. A solution of dentine or enamel without previous decalcification cannot take place. The comparative or complete independence of air of many of these germs explains why caries can go on under fillings or deep in the cavity of a tooth. The fact that teeth form such poor culture substrata for schizomycetes is an additional proof of the position that they are not the primary cause of caries which is produced by acid resulting from the action of these organisms on certain carbo-hydrates in the mouth.

[5] In Ind. Pract., page 283, 1885.

D.

NITROUS OXIDE DANGEROUS.[6]

Nitrous oxide should never be given pure, as, though it may not produce death, there are many concomitant accidents. Among those mentioned are, first, death of the fœtus in a young woman enciente five months, who had taken the gas to have a tooth extracted. Second, several cases of albuminuria. Third, numerous cases of suppression of the menses.

ALKALIES FOR SENSITIVENESS OF THE TEETH.[7]

If bicarbonate of potash is given in doses of five grains three times a day the sensibility of the teeth in excavating them is much diminished.

IODOL.

Among the new antiseptics, this drug has been useful in treating dead pulps and as an injection in Rigg's disease.

NAPELLINE IN ACUTE PULPITIS.[8]

Napelline was given in granules of one-twelfth of a grain, repeated every fifteen minutes. In each of the cases the pain ceased after five or six doses had been given.

NAPTHOL.

B. napthol is superior to carbolic acid or creosote as an injection into the sac of an alveolar abscess, and as a dressing for suppurating pulps. Its comparative freedom from odor and the absence of unpleasant after-effects if it comes in contact with the gums or lips are strong points in its favor.

AMALGAM FILLINGS.[9]

Fletcher says mercurial poisoning may occur where a plug is made with the grossest carelessness and an immense amount of uncombined mercury, though he

[6] Lafont in South. Dent. Journ., page 75, 1886.
[7] Abbot in Dental Practitioner, page 54, 1886.
[8] Grognot in South. Dent. Journ., page 388, 1885.
[9] In Am. Journ. of Dent. Science.

has never seen a case in twenty years practice. But this, even if it does occur is a proof not that amalgam is in fault but that the dentist is not acquainted with the material he is using. Any dentist who will put in a filling saturated with uncombined mercury had better discontinue practice till his education is more complete.

AMBROSIA ARTEMESÆFOLIA AS A HÆMOSTATIC[10].

Several cases are given in which a decoction of the fresh leaves used locally and taken internally stopped the bleeding when other remedies had failed. No exact directions are given.

PILOCARPIN IN TOOTHACHE.[11]

A solution of two grains of the drug in one ounce of water was used. This was injected into the temporal region on the side of the neuralgia from the teeth. In one case a quarter of a grain was used, in two others one-eighth of a grain.

In all the cases the pain disappeared in about an hour after the injection.

ARSENICAL TREATMENT OF THE TOOTH PULP.[12]

The usual length of the time that arsenic has been allowed to remain in contact with the tooth has been a few hours only. Then, if as usually happened, the pulp was not dead, the application was renewed as many times as was necessary to produce this result. Morsman thinks the arsenic should remain in contact with the tooth until the pulp is killed even if it takes a month. He claims that there is no danger in this, as the arsenic is never absorbed.

Reports of Societies.

PENNSYLVANIA STATE SANITARY CONVENTION.

UNDER THE AUSPICES OF THE STATE BOARD OF HEALTH.[1]

FORCED VENTILATION, VS. NATURAL VENTILATION BY HEAT

was the title of the paper read by Mr. Russel Thayer.

THE DRAINAGE AND SEWERAGE OF CITIES AND TOWNS

was considered by COL. GEORGE E. WARING, JR., of Newport, R. I.

THE INFLUENCE OF OVER-WORK IN THE PRODUCTION OF NERVOUS DISEASES AND INSANITY,

by DR. CHARLES K. MILLS, of Philadelphia.

The speaker remarked that over-work was capable of producing the most serious disorders of the nervous system. Just as over-work of a certain set of muscles may lead to exhaustion, so over-work of the mental faculties may exhaust the higher brain centres. There are three periods at which over-work is liable to prove injurious; first, during the educational process of childhood and youth; second, at the time of the greatest struggle for existence, from thirty to forty years of age; and third, beyond middle age in men who are compelled to assume responsibilities for which they are not fitted.

In regard to insanity there are many forms which are distinctly attributable to over-work, associated with emotional disturbance. The most frequent forms are paretic dementia or general paralysis of the insane, primary dementia, and what is called confusional insanity. There is another form which occurs in business men and is often seen in those actively engaged in politics which has been termed by some political insanity.

In a paper on

DEFECTIVE VISION IN SCHOOL CHILDREN,

DR. P. D. KEYSER, of Philadelphia, described the various forms of defective vision, their causes and the means by which they could be remedied.

The closing paper of the day was on

VACCINATION,

by DR. WILLIAM M. WELCH, of Philadelphia.

No discovery has mitigated so much suffering and saved so many lives as that of Jenner. The history of vaccination was then referred to. In regard to the comparative value of bovine and humanized vaccine, the speaker said that there was really no difference between bovine and recent humanized virus, but as regards long humanized virus there is considerable difference. With the latter virus, the period of incubation and the length of the vaccine disease is shortened, and while it does protect, it is doubtful whether the durability of the protection is so great. On account of the more rapid action of long humanized virus, it is preferable where vaccination is performed after exposure to small-pox. In such cases, bovine virus does not give the same results. Bovine virus is usually to be preferred on account of the improbability of conveying diseases by it and for the reason that it is always procurable, and if necessary, can in time of need be obtained in large quantities. The necessity for re-vaccination was insisted upon.

EVENING SESSION.

WATER SUPPLIES OF TOWNS AND CITIES,

by CHARLES SMART, M.D., Major and Surgeon, United States Army.

He spoke of the danger attending the use of contaminated milk as favoring the development of typhoid fever and other affections.

Various statistics with reference to the mortality from typhoid fever in various cities. The rates per 100,000 of population is as follows. New York, 21; London, 17; Boston, 38; Cincinnati, 44; Brooklyn, 15; Philadelphia, 64. The high death-rate in Philadelphia would lead to the suspicion that the drinking water was contaminated.

THURSDAY.— MORNING SESSION.

DR. JOHN M. KEATING, of Philadelphia, read a paper on the

ARTIFICIAL FEEDING OF INFANTS.

The subject being so extensive, the author devoted himself simply to a consideration of infant feeding during the first year of life. The very large mortality among infants, according to the latest census reports, occurs during the first year. The figures presented show that there is, in reality, no such thing as the dreaded second summer. This fact points to the necessity for some definite improvement of the diet of infants of that period.

[1] Concluded from page 519.

[10] Hill in Ohio State Journ. of Dent. Science, page 479, 1885.
[11] Kuszakoff in Dent. Register, page 150, 1886.
[12] Morsman in Am. Journ. of Dent. Science, page 453, 1886.

The milk foods were first considered. Cow's milk was regarded as the best, and it should be prepared to resemble, as closely as possible, mother's milk. The importance of a careful analysis of milk was then shown, but at the same time, scientific rules must not be too closely followed. Individual peculiarities show themselves very early in life. In using cow's milk, the proportion of casein must be diminished, and the amount of cream and sugar, and of bone-forming material, must be increased. The bone-forming material may be increased by the addition of lacto-phosphate of lime. This is preferable to lime-water. In the artificial feeding of infants, where cow's milk cannot be employed, condensed milk, or partially-evaporated milk, without cane sugar, is to be preferred. In using condensed milk, it should be used in the strength of one part to ten or twelve of water. For every eight ounces of this mixture, two tablespoonsful of cream are to be added. This would represent pretty closely mother's milk, with the exception that cane sugar takes the place of grape sugar. It is well to add a portion of lime salts. The various farinaceous foods were then taken up, and considered at length.

THE WATER-SUPPLY OF PHILADELPHIA

was considered by DR. J. CHESTON MORRIS, of Philadelphia.

AFTERNOON SESSION.

DR. W. S. ROSS, of Madisonville, read a paper on

DISPOSAL OF HUMAN EXCRETA BY FIRE.

He described an apparatus which he had devised, by which the solid excreta could be collected, and burned at intervals.

In the absence of DR. ALFRED L. CARROLL, his paper on

THE FINANCIAL ASPECT OF SANITATION

was read by DR. JOSEPH F. EDWARDS.

THE SANITARY SIGNIFICANCE OF SPORADIC TYPHOID FEVER,

by PEMBERTON DUDLEY, M.D., of Philadelphia.

The object of the paper was simply to call attention of the public to facts well known to physicians. He insisted that in all cases, the disease was the result of filth. He emphasized his remarks by the relation of several instances.

DR. HENRY HARTSHORNE did not think that we are justified in assuming that in all cases, typhoid fever was the result of filth. He referred to cases where it seemed impossible to trace the transmission of the disease to any other person, or to filth. Whatever may be the actual cause of the disease, filth is, at least, one of the most active promotive causes.

DR. A. N. BELL, of New York, insisted on the necessity of examining the history of all houses before moving into them. He referred to the danger of closets, without they were freely ventilated.

DR. W. L. ZUILL, of Philadelphia, read a paper on

THE CARE OF ANIMALS IN THE PROPAGATION OF VACCINE.

For this purpose, he prefers female animals of sixteen to eighteen years of age. Before the vaccination, the animals are brought into a condition of perfect health. The color of the animal is important. A red and white coat is the best, as indicating a soft skin.

The method of operation, and the treatment of the animal, subsequently was treated of at length. In regard to the means of preserving virus, the ivory points were considered the best. They should be doubly charged.

He presented a sample of glycerinized virus. In preparing this, the pure lymph is collected in a spoon, and transferred to a vial. An equal weight of glycerine is then added, and the mixture filtered. Thus prepared, the lymph remains active for a number of months.

DR. W. F. HYER, of the Mississippi State Board of Health, described the origination of the Mississippi State Board of Health.

The following papers were read by title:

THE PREVENTION OF THE SPREAD OF SCARLET FEVER,

by DR. W. W. VINEDGE, of Lafayette, Indiana; and

THE INFLUENCES OF DIET ON HEALTH,

by DR. A. K. HILLS, of New York.

The Convention then adjourned.

THE AMERICAN LARYNGOLOGICAL ASSOCIATION.[1]

PROF. JOSEPH LEIDY, of Philadelphia, on the invitation of the Council, made some remarks on

INTERESTING POINTS CONNECTED WITH THE LARYNX,

as follows:

The first point to which I shall refer is the aperture of the larynx. This aperture communicates with the pharynx, and is a large oblique opening, bounded above by the summit of the epiglottis and laterally by the aryteno-epiglottidean folds. The lower portion is formed by the notch of the arytenoid cartilages. Laterally on each side, two eminences are quite prominent in the fresh larynx, an upper pair and a lower pair. The lower pair is produced by the corniculæ of the larynx which terminate the summits of the arytenoid cartilages. The text-books state that immediately above these there is another pair of cartilages. These are the cartilages of Wrisberg. In my experience, I have rarely found these cartilages decidedly developed in the white subject. Where a prominence exists in the white subject, it is caused by a group of glands. Often in these a little cartilage may be found. In the negro, the cartilages of Wrisberg are conspicuously developed. This point has also been referred to by European observers.

The next point refers to the vocal cords, as they are usually designated. These are described as two elastic ligaments extending from the entering angle of the thyroid cartilage directly backward and upward to be attached to the vocal process of the arytenoid cartilage. Between these cords is the narrowest portion of the larynx, or the fissure of the glottis. While physiological it is correct to speak of the vocal cords, yet anatomically it is not correct to speak of vocal cords. These bands are usually spoken of as the inferior thyro-arytenoid ligaments. There is another ligament extending between the thyroid and cricoid cartilage in front and extending back to the base of the arytenoid cartilages. This is described as the middle crico-thyroid ligament. This is connected with the upper border of the vocal membranes. This con-

[1] Continued from page 521.

nection is very important. If the cricoid cartilage is broken or crushed, it must influence the action of the so-called vocal cords, for the vocal membranes are connected quite as much at the lower border to the cricoid cartilage as they are at the upper border of the thyroid cartilage.

The vocal cords are influenced altogether by the muscles attached to the arytenoid cartilages. These are supplied by the inferior laryngeal nerve. Another muscle which may influence the movements of the vocal membranes is the crico-thyroid. This is supplied by a separate nerve, the superior laryngeal. Why this muscle should be supplied by a different nerve has not been satisfactorily explained. The muscles which operate the arytenoid cartilage are the posterior crico-arytenoid, the lateral crico-arytenoid and the arytenoid muscle. These muscles are sufficient to produce all the movements of the vocal membranes. Other muscles, that is to say the aryteno-epiglottidean and the thyro-epiglottidean muscles, have been described, but in my experience the development of these muscles is exceedingly uncertain.

Another point is in regard to the connection of the muscles. In looking at the origin of muscles we usually consider that they are attached to the surface over which they lie; for instance we look upon the posterior crico-thyroid as arising from the posterior lateral surface of the arytenoid cartilage. If the muscle is cut across, we find that it arises only at the most remote portion of this surface. Between this and its insertion there is a smooth surface.

These are, I believe, all the points I have to present.

A vote of thanks was tendered Prof. Leidy for his communication.

DISCUSSION.

Dr. J. Solis Cohen, of Philadelphia. In regard to the cuneiform cartilages, I have noticed that these are best developed in those who have the best control over their voice. I have regarded them as supports for the ventricular bands, supporting them in the same manner as the rib supports the tissue of an umbrella. The connection of the crico-thyroid membrane with the vocal cords is very interesting. There are two supposed paralyses of the larynx which present exactly the same picture. One is the paralysis of the thyro-arytenoid muscle, giving the Indian-bow paralysis of the Germans, the other is paralysis of the crico-thyroid muscle, giving exactly the same appearance. The way to distinguish these paralysis is by placing the finger on the crico-thyroid membrane. If the membrane vibrates when the patient speaks, the crico-thyroid muscle is not paralyzed. With reference to the action of the crico-thyroid muscle in phonation, the thyroid cartilage is fixed and when the attempt to sound high notes is made the cricoid cartilage is drawn up by this muscle. The posterior crico-thyroid muscle from its attachment, not only separates the vocal bands, but when they are made tense by other muscles, its action is to increase their tension.

Dr. F. I. Knight, of Boston. The demonstration of the attachment of the vocal bands to the cricoid cartilage solves the problem in regard to the impairment of voice after laryngotomy. When operations are limited to the thyroid cartilage, the voice is usually not impaired, while if the cricoid cartilage is the seat of operation the voice is always impaired.

Dr. F. H. Hooper, of Boston. I have been especially interested in what has been said with reference to the cartilages of Wrisberg. Only a short time ago an Irishman, fifty years of age, in whom these cartilages were enormously developed, came under observation. His larynx looked very much like that of the dog. In the dog, there is a muscle attached to these cartilages, corresponding to what we would call the dilator vestibuli laryngis in man. If this muscle in the dog is stimulated, the cartilage is rotated outwards. I agree with Dr. Cohen with reference to the action of the crico-thyroid muscle.

Dr. Joseph Leidy. I have never been able to see that the crico-thyroid muscle was related to the other muscles in the production of sound. I am glad to hear the explanation of its action which has been given, which appears to be a satisfactory one.

Dr. J. N. Mackenzie, of Baltimore, exhibited an instrument for fracturing the nasal septum, the chief difference from other instruments of the same class being the great leverage which was obtained.

Dr. Carl Seiler, of Philadelphia, exhibited an apparatus to be used in making sections of frozen heads. Sections made with the machine were exhibited. It is possible to electroplate these sections, which will preserve them indefinitely; after electroplating, the specimen may be heated and the tissue removed in this way. Then by pouring wax into the mould a cast exhibiting all the anatomical features of the original specimen will be obtained.

Dr. C. E. Sajous, of Philadelphia, presented a galvano cautery handle, in which the wires were attached in the middle of the instrument, and both the wires and the electrodes were secured without the use of screws. The connections within the handle were made of copper and heavier than usual in order to diminish the resistance.

Dr. J. H. Hartman, of Baltimore, exhibited a form of ecraseur with extremities of different shapes which could be used for various purposes.

The President announced the following as the Nominating Committee: Dr. T. R. French, of Brooklyn; Dr. F. I. Knight, of Boston, and Dr. G. W. Major, of Montreal.

Adjournment of morning session.

FIRST DAY.— AFTERNOON SESSION.

The first paper was entitled,

CONCERNING THE POSITIONS OF PARALYZED VOCAL BANDS,

by Dr. F. H. Hooper, of Boston.

The paper was in part based on experimental work done in the physiological laboratory of the Harvard Medical School, and in part theoretical. Specimens and drawings illustrating certain points, were shown. The reader stated that it was his purpose to inquire into certain influences which might combine to determine the positions of paralyzed vocal bands and to ask whether we are always justified in assuming that a given position of an immobile vocal band was indicative of the arrested function of this or that muscle of the intrinsic laryngeal group. The speaker thought that a vocal band might assume different positions in cases of complete paralysis of the recurrent nerve, and he passed in review certain anatomical factors and physical causes which he thought might contribute towards producing the position which might happen to be present when seen reflected in the laryngeal mirror.

Dr. Hooper concluded by saying that in his judgment the larynx is such a complicated organ anatomically, it is subject to such changes at different stages of life, its shape is so different in different individuals, its nerve supply is so great, the arrangement of its muscles so liable to anomalies, that as surely as one attempts to formulate theories on the positions alone of paralyzed vocal bands,—positions which may be controlled by intrinsic muscles of the larynx that are not paralyzed, as well as by those that are,—just so surely will one be led unconsciously into erroneous mental inferences.

The next paper was by DR. J. SOLIS COHEN, of Philadelphia, and related the further history of a case of paralysis of the posterior crico-arytenoid muscles presented at the first meeting of the Association in 1879, with a report of the autopsy and the exhibition of a specimen.

The history of the case was briefly given as follows: A man aged forty-eight years was brought to me with a history that for two years he had suffered from occasional spasm of the larynx so that on at least two occasions he had fallen unconscious in the street. When a boy, he had suppurative inflammation of the left ear, and ever since then, the introduction of the finger into the ear would produce spasm of the glottis. On examination with the mirror, I found what we then considered to be the picture of paralysis of the left posterior crico-arytenoid muscle. The examination produced spasm on the other side. The patient was directed to carry with him nitrite of amyl to be used when the attacks came on. This he did for awhile with good results. He subsequently returned with the statement that the day before he had had a severe spasm from tickling in the ear. While illustrating this he had a violent attack in the office, requiring the use of chloroform to relieve it. The next day tracheotomy was performed. No other lesion could be found at that time. The spasms were still produced by irritation of the ear. Five or six weeks later, he began to have paralysis of the right vocal band. The picture then became extreme, and after this time I never saw the larynx in any other position. The man gradually became blind and developed other symptoms of locomotor ataxia. During the four years preceding his death I did not see him, but during this time, he continued to wear the tube. He was able to speak well without occluding the tube. With the condition of abductor paralysis, I think that there was a condition of spasm of the abductors.

At the autopsy all the parts that could be available in the examination, were removed and submitted to Dr. William Osler, for examination. No abnormal appearance was discovered in the brain. The optic nerve was small, grayish white, and atrophied. Many microscopical sections were made of various parts. The left recurrent nerve seemed natural although it will be remembered that the left cord was the first affected. The right recurrent showed a distinct line of demarcation between the healthy and the unhealthy fibres. Instead of the right muscle being atrophied, it was the left muscle which had undergone wasting.

THE FUNCTIONS OF THE RECURRENT LARYNGEAL NERVE,

by DR. FRANK DONALDSON, JR., of Baltimore.

The speaker first referred to the fact that all the muscles, with the exception of the crico-thyroid are supplied by the recurrent laryngeal nerve. The nerve therefore contains fibres controlling both phonation and respiration, acting both upon the abductor and upon the adductor muscles. He then referred to the experiments performed by Dr. Hooper, of Boston, the results of which had been presented at the last meeting of the association. Dr. Hooper had found that the constrictors cease to act when consciousness was suspended by the action of ether and that abduction with dilatation of glottis was obtained by stimulating the recurrent laryngeal nerve when consciousness was suspended. Dr. Donaldson's experiments were made to test the correctness of these results. In five experiments under states of deep narcosis, slight narcosis, and almost complete consciousness, he invariably got adduction of the vocal bands under the application of stimuli with the induction coil at ten. In one case in which consciousness had been suspended, under slight stimulation, abduction was produced, while under strong stimulation, adduction was obtained. It was then found that abduction was always produced when weak currents were employed, but adduction was obtained when stronger stimuli were used. He therefore concluded that the constrictors did not cease to act during profound narcosis or in suspension of consciousness from any cause, and that abduction is not always obtained when consciousness is suspended. It is with weak currents that abduction is produced, but as the stimulation is increased, adduction takes place.

DISCUSSION.

DR. HOOPER. I personally feel very much indebted to Dr. Donaldson for having taken up this work, for it is only by getting many interested in the subject, and bringing forth their results and comparing and criticising them, that we can ever hope to arrive at the truth. The reader has prepared his paper in the friendliest spirit towards myself, but it would have been more gratifying to me if he had read my paper on the Respiratory Function of the Human Larynx with closer attention and then quoted me correctly and accurately. I object very strongly to the wholesale manner I have been misrepresented, yet I recognize that it was unintentional on the part of Dr. Donaldson. He very oddly got the idea from reading my paper that none of my experiments had been verified. If such had been the case the paper would never have been presented to this Association. Dr. Donaldson has laid great stress upon what he calls my theory of the innervation of the larynx. I was not aware before that I had a theory on the subject. In my paper of last year I detailed the results obtained from certain experiments, and in passing, offered more as a suggestion than anything else, that they might be explained in a certain way. The reader has expressed agreement with me upon one point in which I least expected support, and has disagreed with me upon points that admit of no doubt, and are so firmly established by repeated experiments, that I am convinced that the reason why Dr. Donaldson failed to confirm my observations was due to some error in his method of experimentation. If Dr. Donaldson will give me the pleasure of seeing him in Boston, the phenomena which his (perhaps) hasty experiments failed to show him, will be demonstrated to him with ease, and repeated as often as he may desire. Again, in regard to another small oversight, the reader declared that I said that I had observed the same effects with morphine, chloral,

and chloroform, as with ether. I never made such a statement. I understand, with regret, that the reader's paper is to appear in the July number of the *American Journal of the Medical Sciences* as it now stands, containing so many inaccurate statements.

DR. F. I. KNIGHT, of Boston. We must bear in mind that these experiments have been performed upon lower animals, and not upon man, and even if a certain unanimity of opinion is reached, we shall have to adapt these results to the case of man by clinical and pathological observation. It does not follow that the same mechanism takes place in the opening and closure of the glottis in man as in the lower animals. Although stimulation of the transversus muscle produces approximation of the cord, still, in considering the articulation of the cartilages it has always seemed to me that there must be some other factor, and that the lateral muscle is stimulated at the same time.

In regard to abductor paralysis, I think the whole question should be decided upon the position of the vocal process without any reference to the cord. If the vocal process is found in the median line, it is fair to assume that for some reason the function of the abductor muscle has been abolished. A good deal of difficulty has been experienced by observers in determining when the vocal process is in the median line. To me the crucial test is by phonation. If you get a vertical glottis on phonation, without any movement of suspected cord, you have a sure case.

With reference to the question of spasm, it seems absurd to me to consider these cases of what we call abductor paralysis, as cases of spasm. Whoever heard of a muscular spasm lasting for years without any relaxation? I do not believe that it is possible. I do not refer of course to what is called by surgeons muscular contraction, but to real spasm which in the cases that I have seen has been more or less intermittent and not perfectly continuous.

DR. S. SOLIS COHEN, of Philadelphia. In reference to the question of spasm, I can show several cases in which there is constant spasm as the result of an irritative lesion. In a case of injury of the spine, resulting in pressure of the cord, there is spasm of the extensor muscles on one side and of the flexors on the other. I think therefore that the point is not well taken.

It is important to distinguish between the automatic (respiration), the reflex (cough) and the psychic (phonation) functions of the larynx. A well-known physiological law is that the resistance which a nerve offers to the transmission of nervous force is inversely as the use made of the muscle which it innervates. No muscle is used more than the abductors of the larynx. The resistence of their nerves would *a priori*, then be supposed to be the least, and Dr. Donaldson's experiments show that they respond to a weak stimulus. The phonatory muscles are not so frequently used, the resistance of their nerves, though low, is higher than that of the respiratory fibres. The respiratory impulses traverse the nerve continuously and additional stimulation, whether reflex (irritation of the superior laryngeal), producing cough, or psychic for purposes of phonation produces adduction of the vocal bands. There is a local centre in the medulla, the vaso-accessorius nucleus for all the laryngeal muscles. Moderate stimulus from the respiratory centre opens the glottis for respiration, increased stimulus opens it farther, a greater increase save by reflex irritation, closes it for cough. An impulse from the cerebral cortex, the centre of voluntary motion closes it for speech.

LARYNGEAL VERTIGO,

by DR. F. I. KNIGHT, of Boston.

A number of cases of what is called laryngeal vertigo have been reported by various authors. The distinctive feature of these cases is that attacks of coughing are followed by giddiness and momentary loss of consciousness. This latter symptom was present in all but two cases. While it is probable that attacks of dizziness after coughing are not rare, yet but little attention has been paid to the subject. The writer had been able to find fourteen published cases. To these he was able to add two coming under his own observation. The first case was that of a man, aged forty-two years, who had a chronic bronchitis of one year's duration. He had had rheumatism when fifteen years of age, and on one occasion had suffered with insomnia. No morbid condition of the heart was detected. The chest was filled with sonorous and sibilant râles. Under the use of iodide of potassium there was gradual improvement. After a day of worry and fatigue, he had a cough followed by loss of consciousness. There was no evidence of spasm of the glottis, and no convulsive movements. He never had another attack of loss of consciousness.

The second case was that of a lady, forty-seven years of age, who had previously been the subject of attacks of dizziness, the result of indigestion. She had suffered with winter cough for a number of years. During one attack of coughing she lost consciousness. During this time there was congestion of the face.

The following points were obtained from a study of the reported cases. All the cases with the exception of one have been in males. The average at which the attack has occurred has been forty-seven and one-half years. The cough which induced the attack was slight in six cases, spasmodic in two and severe in three. Momentary loss of consciousness occurred in fourteen cases. One case felt, but declared that he had not lost consciousness. Dizziness is mentioned in eleven cases. In four cases there seems to have been decided evidence of laryngeal spasm. In one this was doubtful. In four cases there was marked congestion of the head and face. In two the patients were pale. Convulsive movements of the limbs occurred in three cases: in one the movements affected the face and head, and in another the face. In all these cases there was no biting of the tongue, no frothing of the mouth, and no involuntary micturition. The speaker objected to the term laryngeal vertigo. There probably is no real vertigo in these cases in the sense of the vertigo seen in aural vertigo. There is simply giddiness or lightness of the head. These cases can not be considered to be instances of petit mal.

The cause of the attacks is disturbance of the cerebral circulation, perhaps due to the compression of the large bloodvessels of the chest and perhaps the heart. Even without this, the effect of rapid breathing is well known. This causes marked cerebral disturbance.

A CASE OF CONGENITAL DEFECT OF THE EPIGLOTTIS, ILLUSTRATING A FUNCTION IN DIGESTION,

by DR. FRANK DONALDSON, of Baltimore, was read by title.

BUCCAL TUBERCULOSIS,

by D. BRYSON DELAVAN, M.D., New York.

He had seen six cases of this affection. In the reports of twenty-four cases of tuberculosis of the tongue, in all but one the subjects were male. In twelve cases the lesion was anterior, in seven upon the side and in one at the base of the tongue. In four the situation was not stated. The disease was primary in nine case, secondary in seven cases, in the remaining cases it was not stated whether the disease was primary or secondary. The longest duration of a case of primary tuberculosis was two and one-half years, the shortest ten weeks. The age of the oldest person affected was seventy years, and of the youngest not under twelve.

The first case coming under the speaker's observation was H., aged thirty-five, a laborer. His family history and previous history was good. The man was remarkably robust. Six weeks before coming under observation he experienced pain at the base of the tongue. This pain became excessive, and at the end of two weeks was obliged to give up work. On examination a fissured and ulcerated surface was found at the base of the tongue on the right side. This lesion was indurated. In the centre was a large ulcer with large, flabby granulations. On the right side, externally under the angle of the jaw was a hard tumor about the size of a chestnut. There was slight fetor of the breath. The diagnosis was uncertain. The pain was so severe as to prevent sleep. An application of a four per cent. solution of cocaine, checked the pain for five hours. The patient's condition became so serious that he was removed to the New York Hospital where, under the idea that the disease was epitheliomatous, the complete removal of the tongue was made. The patient recovered rapidly from the operation and there was marked improvement in the general condition. It has been impossible to find any evidence of disease of the lungs or other internal organs. On microscopic examination all the parts present abundant tuberculous material. A point of interest in this case is that this is the first case on record in which such an operation has been followed by an apparent cure. Of course sufficient time has not elapsed to speak positively as to the ultimate result. The operation was done in the latter part of December, 1885.

In a second case of tubercle of the tongue, the patient, P. O., age twenty-seven, gave no history of hereditary tuberculosis. Began to run down two years ago and developed chronic laryngitis. When examined he presented evidence of advanced tubercular disease. The larynx was ulcerated. There was also a lesion on the right tonsil and one on the left. The pain on swallowing was severe. Iodoform gave but little relief. Temporary case was given by cocaine. An application of lactic acid was made to the right tonsil and two days later it was much improved; this was repeated and the improvement continued for two weeks, when the patient began to run down and died. The bacillus tuberculosis was not found, but the man had evident pulmonary tuberculosis.

The third case was that of a man, aged forty-three. Family history good. No history of specific disease. He was well until ten months ago when his strength began to fail and cough came on. Two months ago the throat began to grow sore, and within the last two weeks this has increased. Careful examination of the chest failed to reveal any evidence of disease. Examination of the fauces showed ulceration extending out along the upper border of the uvula. Later the signs of pulmonary involvment became evident. Applications of lactic acid gave only temporary benefit. In this case, the disease has extended along the gum.

Three other cases of somewhat similar character were reported.

DISCUSSION.

DR. E. L. SHURLEY, of Detroit. In these cases of so-called primary tuberculosis, mistakes of diagnosis are sometimes made. We do not diagnose the presence of other lesions when we should, and sometimes we diagnose as tubercle that which is not. I am not sure that the bacillus can be regarded as an absolute evidence that the disease is tubercle. In one case which I considered to be a case of tubercle of the larynx and in which the bacillus tuberculosis was found, the patient recovered and is still living five or six years later. There was never any evidence of a pulmonary lesion. In another case in a woman, under the most favorable conditions for the development of tuberculosis, the bacilli were found in an abscess at the base of the tongue. The patient, however, recovered and is still well.

In the treatment of this condition the part should not be excised, but some treatment which will destroy the part should be advised.

DR. J. SOLIS COHEN, of Philadelphia. I recall a case of tuberculosis of the tongue, in which I removed one-half of the organ with the galvano-cautery. There was in this case tubercle of the larynx. Within a few months I have had a case of what seemed to be tuberculosis of the lungs and larynx sent to me. I have been unable to detect the bacilli. This case is notable for the entire absence of pain. I found on examining the urine that it contained sugar, since then I have been in doubt whether or not this might not be a case of diabetic phthisis, and this might account for the peculiar manifestations.

DR. J. O. ROE, of Rochester. I have had no case of what seemed to be tuberculosis of the tongue, which I did not consider secondary. I have had two well-marked cases of primary tubercle of the pharynx. The first case was that of a lady thirty-five years of age. Six months before coming under observation she suffered great pain in the throat. A well marked lesion was found above the border of the epiglottis and at the base of the tongue. This improved under local treatment. Subsequently the ulceration returned, the patient ran down in health, and died. The larynx was entirely free from ulceration. The second case was a gentleman, forty-five years of age, who had tuberculous ulceration of the pillars of the fauces. Later ulceration of the larynx developed. Under the persistent application of iodide of amyl continued for some time the patient recovered and is still well, weighing 225 pounds.

Adjourned.

FRIDAY MORNING.— MORNING SESSION.

At ten o'clock the executive session was held and the following business was transacted.

The following officers were elected:

President, Dr. E. Fletcher Ingals, Chicago.

First Vice-President, Dr. E. Carroll Morgan, Washington.

Second Vice-President, Dr. J. N. Mackenzie, Baltimore.

Secretary and Treasurer, Dr. D. Bryson Delavan, New York.

Additional Member of the Council, Dr. F. H. Hooper, Boston.

The following active members were elected:

Dr. Benjamin F. Westbrook, Brooklyn; Dr. Frank Donaldson, Jr., Baltimore; Dr. Alexander W. MacCoy, Philadelphia; and Dr. J. C. Mulhall, St. Louis.

Prof. Ranon De la Sota Y. Lastra, of Seville, Spain, was elected a corresponding Fellow.

A proposition in reference to the formation of a Congress of American Physicians and Surgeons was received. The proposition was approved, and the following committee taken from the ex-presidents of the Society was appointed to confer with committees from other societies: Dr. J. Solis Cohen, Philadelphia; Dr. G. M. Lefferts, New York; Dr. F. I. Knight, Boston; Dr. F. H. Bosworth, New York; and Dr. E. L. Shurley, Detroit.

It was decided to hold the next meeting in New York, the time to be determined by the Council.

The first paper was by DR. E. L. SHURLEY, of Detroit, giving

OBSERVATIONS ON THE USE OF SOME OF THE NEWER REMEDIES IN DISEASES OF THE UPPER AIR PASSAGES.

The speaker took up in detail some of the numerous new remedies, and gave the result of his experience in their use.

DISCUSSION.

DR. J. N. MACKENZIE, of Baltimore. Although it has not been mentioned in this paper, I should like to state that I have found the internal use of dioxide of hydrogen of decided value in old cases of catarrh of the larynx and pharynx. I have used it in old cases which have resisted almost all other forms of treatment. I employ a four per cent. solution, giving it in doses of from two to four drachms from four to six times a day. This is kept up for two or three weeks. In a fair proportion of cases the discharge is arrested by this remedy alone.

DR. S. SOLIS COHEN, of Philadelphia. I have used the dioxide in cases of phthisis and of laryngeal phthisis, and have observed from it good effects upon the nutrition. One of the effects of the administration of this agent is a remarkable retardation of the pulse rate. In one case this was so distinct as to compel the discontinuance of the drug.

THE SIMPLEST AND MOST EFFICIENT TREATMENT OF DIPHTHERIA,

by DR. WILLIAM H. DALY, of Pittsburgh.

The speaker stated that he did not intend to offer a new treatment, nor one which would cure ninety or one hundred per cent. of the cases. He would not discuss the point whether diphtheria and croup were identical. His object was to describe the calomel treatment. This is an old treatment. It is mentioned in the writings of Rev. Sydney Smith. About 1779, Sydney Smith's daughter, when six years old was taken sick with a violent attack of croup; Dr. Hamilton, of Edinburgh, was sent for, but not being able to come sent direction to "give the child two grains of calomel every hour and to persevere. He had never known this to fail." This was done and the child recovered.

The credit of practicing and recommending this treatment in modern times belongs to Dr. William C. Ritter, of Pittsburgh. Of the different forms of mercury, calomel is the best. The drug is to be given in doses of from two to five grains every one, two, or three hours. It may be given dry and washed down with a little ice water, or it may be given in water. This is to be continued until the stools become frequent and contain in them gelatinous masses of a bright green color, resembling chopped spinach. Then the interval is to be lengthened and the drug continued so as to keep up this condition of catharsis, the patient having two or three stools each day. It is better to lengthen the interval than to diminish the dose. In this way there is less liability to induce ptyalism. Very little depression follows these large and frequently repeated doses. Ptyalism does not often occur. Under this treatment the membrane exfoliates and reforms, if at all, with less readiness. The fever diminishes. The diet is to be of a light nutritious character.

The speaker had found it the most efficient of any treatment which he had employed, and was the simplest to use. The cardinal rule in the treatment is to give the calomel until the condition of catharsis described has been produced. Under this method a greater number of cases will be saved than under any other proposed method.

DISCUSSION.

DR. E. L. SHURLEY, of Detroit. I have had a large experience with diphtheria and with the calomel treatment. I agree that the internal administration of calomel is one of the most efficient remedies for croupous inflammation, but in regard to its efficiency in the treatment of diphtheria, I cannot agree. The difference between croupous inflammation and diphtheria is considerable. Diphtheria is an infectious disease, while croupous inflammation is not necessarily an infectious process. In my experience, I know of no cases of diphtheria relieved by the calomel treatment.

DR. DONALDSON, of Baltimore. I wish that Dr. Daly had given us some statistics and reported some cases. I have seen the calomel treatment frequently tried, but without success. I saw Trousseau treat cases of diphtheria in that way, but he finally abandoned it. If any mercurial were used I think that the bichloride would be the one to be employed. Under our present view of the nature of the disease, the best method of treatment would probably be the use of a spray of a solution of the bichloride of mercury (1–1000) sustaining measures and keeping the patient in a room where there was free ventilation.

DR. BEVERLY ROBINSON, of New York. There is scarcely a remedy which has not at some time been recommended as a specific for diphtheria. Calomel has been thoroughly used, and finally given up, because it did not accomplish what was proposed. I am convinced that epidemics of diphtheria, as of other infectious diseases, differ very much in virulency, and a remedy which is successful in one epidemic, will entirely fail in another. Another point not sufficiently dwelt upon, as a rule, is that the character of diseases differ much in different countries. I have never seen in New York such types of typhoid fever as I have seen abroad, notably in Paris. I have never seen such cases of malignant diphtheria in the hospitals of New York as I have seen in the children's hospitals of Paris.

I believe that in treatment, it is safer to follow what

has been considered by the accurate men of our profession, in large numbers, the most reliable treatment for a disease of this character. There is a general consensus of opinion that the proper line of treatment is disinfection of the throat and air-passages, the use of smaller or larger doses of tincture of iron, combined or not with chlorate of potassium.

DR. F. H. BOSWORTH, of New York. I think that mercury possesses a specific value in the treatment of diphtheria. Diphtheria is a blood poison, which often kills by its toxic effect, but in a greater majority of cases, it kills by leading to the development of croup. The affection of the larynx is not diphtheria, but a sequent disease. While I think that mercury has no effect upon diphtheria, yet I believe that it has a specific effect in arresting the disease in the larynx called croup. I believe that mercury is the remedy to be administered in croup.

DR. J. N. MACKENZIE, of Baltimore. I simply want to call attention to the fact that where, in diphtheria, we have great depression, alcohol should be our sheet anchor.

DR. WILLIAM H. DALY. I am not surprised that this method of treatment has not been received with favor. I did not receive it favorably when it was presented to me. I do not recommend calomel as a specific; I simply say that I have had a greater proportion of successes under this plan of treatment than under any other which I have tried.

THE QUESTION OF HÆMORRHAGE AFTER UVULOTOMY, WITH THE DESCRIPTION OF AN INSTRUMENT FOR ITS ARREST.

by DR. E. CARROLL MORGAN, of Washington.

The speaker first quoted from numerous authors, giving their views as to the danger of hæmorrhage after this operation. He then described the following case: A man aged twenty-eight years, whose uvula had been excised five days previously by another operator, came to him with the statement that the bleeding came on four hours after the operation, and had continued at intervals since then, a large quantity of blood having been lost. Various means had been tried to stop the bleeding without success. The parts were covered with a coagulum of the persulphate of iron. This was removed, and the parts cleansed. The bleeding points were then seen. The uvula evidently had been greatly hypertrophied. The scissors had been used in the operation. There was no evidence of the hæmorrhagic diathesis in this patient, or in any members of the family. The parts being cleansed, the stump was seized with dressing forceps and the hæmorrhage was controlled. The galvano-cautery was applied, and the bleeding stopped. In nine hours, it recurred. The cautery was again used, and the stump dusted with the persulphate of iron. The following morning a copious hæmorrhage took place, not less than a drachm a minute by actual measurement, being lost. A careful examination was then made to detect any other source of hæmorrhage, but none could be found. Chromic acid was then used, and the hæmorrhage stopped. At three o'clock the same day, copious bleeding re-commenced; galvano-cautery was again employed. There was not room for the application of a ligature. Torsion was tried without success. A small clamp used in retaining shirt sleeves in position was then taken, the spring weakened, and the teeth filed down; it was then applied. A string was attached to this and brought out of the mouth. This checked the bleeding, and was allowed to remain for several hours. It was then removed, and the bleeding did not recur. A search for the literature of the subject failed to show any instance in which such a procedure had been before adopted. In this case, he thought that this device had saved the patient's life.

A careful study of the subject had enabled him to find seventeen other cases, in which the hæmorrhage after this operation had been profuse. Death has never resulted directly from the hæmorrhage after uvulotomy. Where the bleeding is persistent, it is always arterial in character.

The speaker, in conclusion, said that a fatal hæmorrhage had never followed uvulotomy. A persistent, alarming hæmorrhage is only encountered in the rarest instances. A moderate bleeding, stopping spontaneously, or by the use of the mildest applications, occasionally happens. A loss of a few drops of blood at the time of operating, followed by a slight oozing, is a common occurrence.

The most reliable surgical measures for controlling uvular hæmorrhage, are, ligature, compression by a clamp or forceps, and the use of the actual cautery. The most reliable styptics are in the order named: solid nitrate of silver, persulphate of iron, gallic acid, tannic acid, alum, the local use of ice, and vinegar. The most reliable systemic remedies are opium, acetate of lead, sulphuric acid and ergot.

To the paper was appended an exhaustive bibliography.

The speaker recommended that in operating, the object should be to restore the uvula as nearly as possible to its normal size, and that the entire uvula should not be removed.

DISCUSSION.

DR. F. H. HOOPER, of Boston. I have never seen a bleeding of more than a few drops after this operation. I never cut through the muscle, I merely remove the redundant mucous membrane. It is with me, however, an infrequent operation — about once in 165 cases of throat disease.

DR. FRANK DONALDSON, of Baltimore. I have seen but a few drops of blood after this operation. I think that the uvula very rarely requires to be amputated. The old idea that enlargement of the uvula produces irritative cough, is, I think, erroneous. The principal trouble produced by an enlarged uvula is interference with the proper adaptation of the soft palate during the second stage of deglutition.

DR. WILLIAM H. DALY, of Pittsburg. This operation, if done at all, should be so performed as to leave the parts in as nearly a normal position as possible. Uvulotomy is, however, rarely necessary.

(To be continued.)

— A private letter from Cairo published in the *Albany Medical Annals*, gives an interesting account of the accouchement of a Turkish princess. The "infidel" physician gained access to the case through his reputation as one who gave chloroform in labor. The anæsthetic gave great satisfaction in the harem, and the native surgeon overcame his fears sufficiently to hold the sponge himself towards the end of the labor. The favorable result of the case promises well for the introduction of European physicians and methods.

Medical and Surgical Journal.

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ANNUAL REPORTS OF THE MASSACHUSETTS GENERAL AND BOSTON CITY HOSPITALS.

THE Trustees open their report by a reference to the loss which the hospital has sustained in the death of the resident superintendent, Dr. Whittemore. His ten years of service had won the respect and friendship and even the admiration of the officials of the institution.

The resignation of Dr. Hodges has caused the only change in the staff in the period covered by the report. Dr. Hodges has been a member of the surgical staff for twenty-three years, and resigns because private duties no longer allow him to devote his time to hospital service. Many others, who, with the trustees, "have appreciated his untiring and efficient devotion," will join with them in regret that the time has come "when his repeated wish, that his resignation be accepted, can no longer be resisted."

One of the contemplated sanitary towers, containing all the bath-rooms and water-closets for the wards on the north side of the main building, has been completed, and will free those wards from all possible taint from bad drainage. The other tower, which will perform the same service for the wards of the south side, will undoubtedly be built before another year has passed.

The Convalescent Home is increasing its work in a way most satisfactory to the Trustees, but in view of all that is said of the inability of convalescents to find place and opportunity to fully recruit before taking up again the business of life, it seems strange to read that the public do not make as much use of the Home as was hoped for. It was not built solely for patients from the Massachusetts General Hospital, but for convalescents from other hospitals, hotels, and boarding-houses, or from private houses, where quiet and rest, with fresh country air, and good food, could not easily be procured.

In common with most hospitals dependent in part upon voluntary contributions, the trustees suggest the need of further support. The subscription to the free bed fund has fallen off from previous years and money was never more needed for this purpose than now. The average number of patients in the hospital was 167, of which the average number of 150 had free beds.

Among the many tables, showing various financial matters in the management of the Hospital and Asylum, is one giving the expenses of the Hospital and Asylum for twenty-four years. In 1862, the total expenses at the hospital were $42,114.81 and at the asylum $71,823.46: in 1885, they had increased to $112,623.36, and $140,278.86, respectively. The average cost per week per patient had risen from $6.04 and $7.27 to $11.99 and $15.72.

At the hospital the whole number of patients admitted during the year was 2,327, of whom 918 were medical and 1,409 surgical.

The report of the superintendent of the McLean Asylum shows that the average number of patients in the Asylum was 171. Of the admissions during the year 36 were voluntary patients admitted on their own written application. The working of this voluntary plan is proving it to be most useful and satisfactory. The persons who make use of it regard it as a privilege, when feeling the need of care and treatment; and they are glad to avail themselves of its advantages as they thus avoid an examination and commitment which will formally pronounce them to be insane. The report shows that this class of patients contributes a little more than its due proportion to the number and percentage of recoveries.

The training school for nurses occupies the greater portion of Dr. Cowles's report. He is very enthusiastic in its favor, regarded both from the standpoint of the hospital and the nurse. It certainly seems to mark a still further progress in the treatment of the insane.

The record of several post-mortem examinations at the asylum closes the report.

The twenty-second report of the Trustees and Superintendent of the Boston City Hospital is for eight months of the year 1885, from May 1st to December 31st. The hospital year will in the future coincide with the calendar year; hitherto it has dated from the first of May.

The total expenditure for the eight months was $120,375.63, of which about $6,000 was for repairs, alterations, etc. After making other deductions for stock on hand and income from paying patients, a *per capita* cost of $7.64 for the care and treatment of each patient is reached. This is seventy-five cents less than last year, a reduction which is apparent rather than real, being really due to the final payment by the State of past claims for the board of non-resident sick.

The largest number of patients on any one day was 365, against 357 last year; the smallest was 265, against 260 last year. The daily average was 315+, which is 9 more than last year, and 20 more than two years ago. The average length of stay was the same as last year.

The number of patients admitted with accidental injuries was 562. Of all patients admitted, 140 died

within 48 hours after admission. The rate of mortality was 10 2-10 per cent. If from the total number of deaths we deduct those brought to the hospital in a dying condition, the annual mortality is reduced from 10 2-10 to 6 5-10 per cent.

During the eight months of the year the benefits of the Hospital have been received by 8,271 persons. Of 3,965 persons examined for admission 736 have been rejected; a proportionately smaller number than last year.

The capacity of the Hospital is now 425 beds. The classification of sexes and the numerous diseases will not, however, under the most favorable circumstances, allow the number to exceed 400 on any one day. When the new wards for contagious diseases are completed 60 more beds will be added, making a total capacity of 485 beds. The buildings for these wards for which an appropriation of $40,000 was voted last year by the city and for which plans were prepared, have not yet been begun. Their completion would not only add considerably to the hospital accommodations, but also to the needed facilities for properly isolating such cases.

The Nurses' Home has been completed and furnished within the year, and occupied since September. It is the largest, and is considered by the Superintendent to be on the whole the best Home connected with any training-school in this country, or perhaps in the world. It has in many ways already justified its erection. There are about sixty nurses attached to the School, and these supplemented by twenty male nurses and twelve ward maids are found to be fully adequate to do the work of nursing.

The crying need of the Hospital is a new building for the Out-Patient Department, a need frequently brought to the notice of the city council. About 45,000 visits are made annually to the various departments for out-patients; and the facilities are totally inadequate for receiving and treating these patients even with a due regard to common decency, to say nothing of the comfort and convenience of the attending medical officers.

This report throws some light upon the alleged abuses of medical charities. In the Trustees' Report we find it stated that: patients are frequently admitted asserting they are too poor to pay for medical attendance, who on scrutiny are found to be amply able to pay at least the cost of their board and care. Patients have been admitted as described who have been found to own unencumbered real estate amounting to $20,000; and in one instance a landlord occupied a "free" bed for several months while his tenants came semi-monthly on visiting days to pay their rent.

— A printing contract, said to be the largest on record, is reported to have been made between a New York manufacturer of a nostrum and a Philadelphia printer. The bargain is for 40,000,000 thirty-two-page pamphlets and 400,000,000 four-page circulars, to cost $800,000. Part of the work will be done in Philadelphia, and the remainder in England and Germany.

THE ANNUAL DISCOURSE BEFORE THE MASSACHUSETTS MEDICAL SOCIETY.

THE annual discourse, before the Massachusetts Medical Society, delivered this year by Dr. R. M. Hodges, of Boston, is devoted, under the title of "Undercurrents of Modern Medicine," to a brief consideration of several of the most important questions of the day, in the relations of modern medicine and medical men to society and the State. The first part of this discourse, which was delivered yesterday, appears in this issue of the JOURNAL, the remainder will appear next week. It contains suggestions upon the questions presented which are the product of the ripe wisdom of personal experience and observation, suggestions which deserve the careful reflection of those who were present and heard the reader, and of those who have the advantage of making a less hurried acquaintance with the discourse in our printed pages, which it will repay all to do.

In regard to the regulation of the practice of medicine by the State, Dr. Hodges expresses the opinion that the profession, and not the State, must be the guardian of its own interests, and that, if the Commonwealth is to be asked to take a hand in medical affairs, the appeal should be made solely on the ground that, as the State employs medical men for certain purposes, it may properly be asked to define the conditions on which it will accept service. An enactment covering the certification of deaths and the giving of expert testimony in civil and criminal cases should constitute the whole of the State regulation of medicine.

In the matter of the higher medical education the lengthening of the curriculum backwards into the preparatory years, by requiring better qualifications to begin with, is favored. By better qualifications, a familiarity with natural science, especially physiology and biology, is meant; and a satisfactory preliminary examination in those subjects, it is suggested, would be equally indicative of general fitness as, and more indicative of special fitness than, such an examination in the present subjects demanded of candidates presenting themselves for entrance to the Harvard Medical School.

The courses introductory to the study of medicine, which have been established by the Massachusetts Institute of Technology and the Johns Hopkins Medical School, are commended. Compulsory attendance on the same course of instruction for two or three successive years Dr. Hodges would regard as advantageous in certain branches of study, and above all in anatomy. An arrangement of the studies of anatomy, physiology and therapeutics, with maximum and minimum requirements, thus offering prescribed and elective courses in each of these departments, is suggested. The encouragement of competitive teaching, as illustrated by the so-called Extra-Mural School at Edinburgh, is strongly and wisely recommended.

Judicious misgivings are expressed as to the influence upon the practical education of young men which is exerted by the Training Schools for nurses, now so

popular and so numerous; and also as to the possible retrogression of these trained nurses in the efficient discharge of the minor duties and drudgery of their occupation, in direct ratio to their advances in special knowledge, formerly the province of the physician.

Specialism and specialists are fairly treated, but the just assertion is made that he who has the most comprehensive knowledge of the human organism and its disorders is, with certain well recognized exceptions, best able to determine what is the matter with any given part of it, and so to help its unlucky owner to recovery, either through his own practical skill, or his ability wisely to select the colleague whose attainments may permit him to deal better with the case than he can.

Dr. Hodges dwells regretfully on the more robust health and quiet life of the earlier generations in New England, the inheritance from which has not yet been entirely squandered, and compares it to the "little health" of the present time. One may fairly suspect that the more rapid elimination of the weak and sickly by the hardships of the rougher life, as well as the absence of the telephone and telegraph, had something to do with the more vigorous type of Yankee of the last century. Be that as it may, we readily accept the pregnant truth of the statement that:

"Among the predominant causes of preventable disease in our own community, there are two exercising an influence in youthful life, and particularly among females, which are as universal as those of specific micro-organisms, and scarcely less pernicious. These are insufficient nourishment, and insufficient rest and repose, or expressed in briefer terms, famishment and fatigue. To counteract these inimical influences is to control, to a great extent, the conditions of life, especially of city life."

We have touched hastily upon a few of the principle points made in this wise and practical discourse, without any intention of discussing them, but solely with the purpose of persuading our readers to study the whole for themselves.

MEDICAL NOTES.

— Sir Henry Thompson is among the noble army of the medical novelists, or, as we might almost say, has gone over to the majority. The neurologist novelists have a fund of experience in their specialty, which is often available for the purposes of fiction. But what Sir Henry finds in his specialty to adapt for such ends, is a matter of curious conjecture. The title of his latest work is announced as "All But." Theories are rife among those who have as yet failed to obtain the book, as to whether the plot turns on a case of defeated catheterization, or of the persistence of residual fragments after a lithotrity.

— A somewhat unusual and ingenious therapeutic device is reported as having been practised in the case of the late Lemuel Walter Sands, a lawyer who died recently in New York city at the age of eighty-seven. It is said that his last case related to the ownership of some real estate that the Astors bought. It was complicated by a will contest, a faultiness of deed and other questions. He became intensely engrossed in it, and declared that when it was off his hands he would be ready to die. He was bent on bringing it to a conclusion. That got to be a passion with him. Therefore his relatives, under the advice of his physician, managed that the end should not be reached. The idea was that if he felt that his final litigation was over he would relax his grip on life. The Astors consented to let the matter lie in abeyance, three Supreme Court judges were kindly parties to the deception, delays were caused, and the belief was that Sands lived several years longer than he otherwise would have done, in consequence.

— The National Board of Health report under date of May 20th, the following particulars gained from consular and other reports, regarding cholera and yellow fever. Reports from Brindisi state that cholera made its appearance in that place April 6, very soon after the arrival of a vessel from India, and it is consequently believed to be a fresh importation of the disease. From April 6 to 24, there were 140 cases and 46 deaths. Sporadic cases have been reported in Osbuni, Measgne, and Campi. The disease made its appearance in Venice about the same date, and to April 24, 30 deaths had been reported. In the city of Padua two deaths of citizens occurred early in the month, and from the 3d to the 9th there were 12 cases and two deaths among the soldiers of one of the regiments stationed at that place. April 27th, one case occurred in another of the regiments stationed at Padua. Four cases have occurred in the province outside the city, and two in the province of Rovigo. Cases have also been reported in Chioggia, Carvarzere, and Lecco. Reports dated April 28, state that cholera has abated in the Department of Finistere. April 3d, there were 16 cases under treatment, on the 9th two, and that no new cases have been reported in Audierne since April 3d. Reports received from Singapore state that cholera prevailed there and in that vicinity during the second and third quarter of 1885. 82 deaths occurred in Singapore, 12 in Penang, and 77 in Wellesly. Cholera is also reported as epidemic in the island of Liamo, northeast of the Celebes. During February 345 deaths from yellow fever were reported in Rio de Janeiro as compared with 160 in January. Of the deaths 205 occurred in private houses and 140 in hospital. A strict quarantine against Brazil is maintained by the neighboring governments.

NEW YORK.

— The programme of the semi-centennial meeting of the County of Chemung, to be held at the Masonic Temple, Elmira, comprises an address by the President, Dr. Albert H. Baker, on "Benevolence and Fraternity in the Medical Profession," an historical sketch of the Society by Dr. Wm. C. Wey, an address by Dr. Truman H. Squire, on "The Advance in Medicine and Surgery for the past Fifty Years," and a

poem by Dr. William Woodward, commemorating the occasion. Then follows a banquet at the Rathburn House.

— At a meeting of the New York Chamber of Commerce held June 2d, a special committee appointed to consider the rules and regulations of the Health Officer of the Port of New York, relative to the disinfection of imported rags, reported the following resolutions:

Resolved, That it is the opinion of this Chamber: — I. That invoices of rags accompanied by a certificate of the United States Consul that they were all gathered in a country which, at that time, was, and for at least six months immediately preceding, had been free from cholera or other contagious or infectious epidemic diseases, should not be required to be disinfected, either before shipment or on arrival. In the absence of such certificate, rags coming from a port or country claimed to be free from such diseases, should be disinfected on arrival.

II. That rags gathered in any port or country where such diseases then are, or have been prevalent at any time within six months immediately preceding the shipment thereof, and whether such rags are exported direct or by way of any other port or country, and whether landed or stored therein, or trans-shipped overside to another vessel for re-export, should be prohibited from being landed in the United States so long as any prohibitory order published by the government or Health Officers remains in force, nor when the order is rescinded, should such rags be landed until disinfected on arrival.

III. That quarantine regulations in relation to rags or other merchandise, or the disinfection thereof, should be uniform at all ports of entry in the United States.

The third resolution was amended by adding the words, "and should be under the sole control and management of the United States Government," and the resolutions were then unanimously adopted.

Miscellany.

ALBUMINURIA IN HEALTH.

THE view of the not necessarily serious significance of albuminuria, which has received abundant support in recent years, is given still further emphasis by a recent editorial in the *British Medical Journal*, founded on a monograph by Dr. C. von Noorden, of Giessen, on "Albuminuria in Healthy Persons," in the *Deutsche Archiv für Klinische Medicin*. He classes "physiological" albuminuria into three groups. In the first group, the albuminuria is generally found in weakly youths between the ages of puberty and twenty, rarely in children or in adults. The presence of albumen is discovered in these cases, either during clinical statistical researches, or else in persons who send for the medical attendant because they feel faint, weak, or otherwise slightly indisposed. The proportion of albumen differs greatly at intervals of a few hours. It may run up from 0.0 to 0.5 per cent., or higher in a single morning. Rarely, if ever, is the urine continuously albuminous all day. These conditions are very characteristic of physiological albuminuria, and do not exist in any form of nephritis. The urine is pale, clear, and generally, but not always, of high specific gravity. The albumen is always coagulable on boiling. Occasionally, a globulin-like compound has been detected in excess of the serum-albumen. Casts very rarely are found, and if present, they are hyaline, never epithelial. The albumen is always to be found in greatest quantity before noon. In some cases of physiological albuminuria, no abnormal general condition could be found; in others, muscular pains, errors of diet, or mental excitement, have been observed, and assigned as causes of this condition. No evidence of renal disease has ever been proved, nor of altered conditions of the blood. Dr. von Noorden believes that it is more likely due to blood-changes themselves, possibly caused by slight renal disease, than by disturbed filtration in the tubuli uriniferi, as Leube has suggested.

In the second class of cases, mucin is present, as well as albumen. In this class, again, the albuminuria is most marked before noon. The mucin might be derived from the lower part of the urinary tract, or from the kidney itself. The proportion of albumen is very variable and much influenced by bodily exertion. In raw recruits, it is most abundant after heavy drill. Dr. von Noorden believes that this class represents mild vesical catarrh.

The third class of cases, on the other hand, appears to represent slight renal catarrh, insufficient to cause the general and local symptoms of renal disease, just as, in the second, the subjective signs of cystitis are present. In striking contrast to the first class, the albuminuria may last for a whole day and then disappear, or may be found only before noon, yet in regular, but very small, proportions. No mucin can be detected, but hyaline, and sometimes epithelial casts, and even red corpuscles, are generally present.

The first class is evidently the purest kind of "physiological" albuminuria. Yet this term is still questionable, for a trifling amount of disease in the genito-urinary apparatus is a more probable cause of the condition in question than any unusual "physiological" tissue-change, caused by exertions after heavy meals, etc. Physiological albuminuria, then, must be held to imply albuminuria in persons who appear to be otherwise healthy, though local disease is, in all probability, present to an extent insufficient to produce any other symptom.

Correspondence.

REMARKABLE POWER OF REPRODUCTION.

MR. EDITOR, — In the *Journal of the American Medical Association* for May 29, the editor makes the following statement:—

"We think it proper to reproduce the general officers of the Congress, the members of the Executive Committee, and of the Local Committee of Management at Washington, and the Presidents of the Sections," etc.

Definition:— "Reproduction. The function by which living bodies produce bodies similar to themselves."— *Dunglison.*

Since the time when the ingenious Mr. Abram Johnson diverted the scientific world with his "*Lucina sine concu-*

bitu," no such surprising feat of generation as the foregoing has been made known. While it is natural to marvel at the capacity for reproduction enjoyed by this aged but still vigorous editor, it is impossible not to feel an almost pathetic interest in the fate of the distinguished gentlemen who are born again. How will they like it? Will they spring into their renewed existence endowed at once with the same learning, skill, and fame which belonged to them in their pristine state? Let us hope so. To be reproduced with *less* were unjust to them and to the Congress, and would be taxing the powers of their reproducer too heavily. Some malevolent persons, it is said, will attempt to depreciate the importance of this interesting phenomenon by asserting that it is not a new phenomenon at all, but only a further manifestation of an old fashioned habit of "successive abortions." Such impious libels upon the latest development of the *new birth*, the simultaneous reproduction of eighty mature physicians in broad-cloth, to which Vishnu's single incarnations were trivial and easy, merit no reply.

The most bewildering reflection connected with this remarkable performance arises from the fact that the potent and fecund editor himself stands first in the list of "officers." Will he then, reproduce himself, and how will he go about it? Let us pause with decent reverence on the threshold of this mystery of autogenesis, and humbly wait for the result of the "general delivery."

Very truly yours, C. C. C.

REPORTED MORTALITY FOR THE WEEK ENDING MAY 29, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Diph. and Croup.	Scarlet Fever.
New York	1,439,039	635	238	17.22	14.98	7.56	29.40	1.26
Philadelphia	971,363	353	126	13.44	18.48	.28	5.88	2.24
Brooklyn	690,000	251	102	15.21	12.48	.39	7.80	4.29
Chicago	630,000	—	—	—	—	—	—	—
Boston	390,406	160	41	8.19	12.60	.63	5.67	—
St. Louis	417,220	160	71	13.86	13.23	1.89	1.26	1.89
Baltimore	400,000	—	—	—	—	—	—	—
Cincinnati	325,000	—	—	—	—	—	—	—
New Orleans	238,000	125	52	18.40	18.40	15.20	.16	—
Buffalo	202,818	—	—	—	—	—	—	—
District of Columbia	205,000	75	20	3.99	21.28	—	—	—
Pittsburgh	190,000	65	28	12.06	8.04	4.02	—	1.34
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	118,070	39	7	12.80	25.60	5.12	5.12	—
New Haven	78,000	—	—	—	—	—	—	—
Nashville	60,000	17	6	41.06	5.88	5.88	—	—
Charleston	60,145	43	20	20.97	18.64	13.98	—	—
Worcester	68,383	17	8	17.64	5.88	—	—	—
Lowell	64,051	23	0	4.35	8.70	—	4.35	—
Cambridge	59,660	15	2	20.00	6.66	—	6.66	13.33
Fall River	56,863	15	5	6.66	20.00	6.66	—	—
Lynn	45,861	12	0	8.33	50.00	—	8.33	—
Lawrence	38,825	—	—	—	—	—	—	—
Springfield	37,577	14	4	7.14	7.14	—	—	7.14
New Bedford	33,393	8	2	—	—	—	—	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	14	1	—	7.14	—	—	—
Holyoke	27,894	11	2	36.36	18.18	18.18	—	18.18
Chelsea	25,709	6	0	—	33.33	—	—	—
Taunton	23,674	5	3	20.00	—	—	20.00	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	5	1	20.00	40.00	—	20.00	—
Brockton	20,783	—	—	—	—	—	—	—
Newton	19,759	2	0	—	—	—	—	—
Malden	16,407	6	1	16.66	16.66	—	—	—
Fitchburg	15,375	5	0	—	60.00	—	—	—
Waltham	14,609	3	0	33.33	—	—	—	33.33
Newburyport	13,716	11	1	—	9.09	—	—	—
Northampton	12,896	5	0	20.00	20.00	—	—	20.00
Massachusetts Towns	—	—	—	—	—	—	—	—

Deaths reported 2,100: under five years of age 741: principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 320, consumption 343, lung diseases 202, diphtheria and croup 115, diarrhœal diseases 61, scarlet fever 35, measles 24, whooping-cough 21, typhoid fever 21, malarial fever 21, erysipelas 10, cerebro-spinal meningitis six, puerperal fever five, small-pox (New York) one. From measles, Baltimore 10, New York seven, Brooklyn three, Nashville two, Worcester and Holyoke one each. From whooping-cough, New York five, Philadelphia three, Brooklyn, Boston and Baltimore two each, Pittsburgh, Providence, Nashville, Charleston, Worcester, Cambridge and Lynn one each. From typhoid fever, Philadelphia 11, New York, District of Columbia and Pittsburgh two each, New Orleans, Nashville, Holyoke and Malden one each. From malarial fever, New York, 14, Charleston two. Philadelphia, Brooklyn, Baltimore, New Orleans and District of Columbia, one each. From erysipelas, New York, seven, Philadelphia, Brooklyn and Boston, one each. From cerebro-spinal meningitis, New York and Philadelphia two each, Baltimore and Worcester one each. From puerperal fever, Pittsburgh and Nashville two each, New York one.

Cases reported in Boston: measles 35, diphtheria 18, scarlet fever 17, and typhoid fever six.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending May 17th the death-rate was 19.1. Deaths reported 3,321: infants under one year of age 766; acute diseases of the respiratory organs (London) 293; whooping-cough 120, measles 90, diphtheria 30, diarrhœal diseases 39, scarlet fever 23, small-pox (Blackburn) one.

The death-rates ranged from 8.8 in Huddersfield to 27.8 in Preston; Birkenhead 10.4; Birmingham 19.6; Bradford 17.4; Hull 24.3; Leeds 19.1; Leicester 20.6; Liverpool 20.8; London 17.8; Manchester 28.2; Nottingham 16.1; Portsmouth 19.9; Sheffield 18.8; Sunderland 16.0.

In Edinburgh 20.9; Glasgow 27.7; Dublin 22.2.

For the week ending May 15th, in the Swiss towns, there were 39 deaths from lung diseases, consumption 38, measles 12, diarrhœal diseases 10, whooping-cough eight, small-pox six, erysipelas one, typhus fever one.

The death-rates were: at Zurich 24.8; Geneva 21.2; Basle 18.5; Berne 18.2.

The meteorological record for week ending May 29, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps: —

Week ending Saturday, May 29, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday, ...23	29.769	68.1	82.6	59.5	78.0	61.6	47.0	58.7	W.	S.E.	N.	13	7	3	C.	C.	C.	—	—
Monday, .. 24	29.704	60.8	68.9	59.2	54.0	72.0	65.0	66.0	E.	E.	W.	8	6	12	F.	O.	F.	—	—
Tuesday, ..25	29.522	54.1	63.4	47.3	69.0	85.0	71.0	75.0	S.W.	N.W.	N.W.	2	14	21	O.	O.	R.	—	—
Wednes., 26	29.647	51.5	56.6	44.6	55.0	37.0	55.0	49.0	N.W.	N.W.	S.W.	24	20	17	C.	O.	O.	—	—
Thursday, 27	29.670	55.3	67.8	49.1	37.0	83.0	80.0	66.7	W.	S.W.	S.W.	11	17	12	C.	R.	O.	—	—
Friday, ...28	29.775	58.1	65.0	51.3	80.0	59.0	70.0	69.7	N.	S.E.	N.W.	9	4	7	F.	F.	C.	—	—
Saturday, .29	29.885	63.2	75.4	50.7	58.0	47.0	59.0	54.7	N.W.	S.E.	W.	6	8	14	C.	C.	O.	.14½	0.28
			68.5	51.7															
Mean, the Week.	29.709	58.7	82.6	44.6				62.4											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MAY 29, 1886, TO JUNE 4, 1886.

GARDNER, E. F., captain and assistant surgeon. Ordered for duty at Madison Barracks, N. Y. S. O. 49, Division of the Atlantic, June 1, 1886.

ROBERTSON, R. L., first lieutenant and assistant surgeon. Relieved from temporary duty at Fort Snelling, Minn., and ordered to Fort Keogh, M. T.

PHILLIPS, JNO. L., first lieutenant and assistant surgeon. Relieved from duty at Fort Keogh, M. T., and ordered to Fort Sisseton, D. T. S. O. 45, Department of Dakota, May 24, 1886.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING JUNE 5, 1886.

SMITH, HOWARD. Detached from the "Nipsic" and placed on waiting orders.

ELECTION OF OFFICERS OF THE MASSACHUSETTS MEDICAL SOCIETY FOR 1886-87.

The annual meeting of the Councillors of the Massachusetts Medical Society, a full report of which will be given in next week's JOURNAL, was held at No. 19 Boylston Place, June 8th, at 7 P.M. President Charles D. Homans, M.D., in the chair. The following officers were elected for the ensuing year: President, Thomas H. Gage, M.D., of Worcester; Vice-President, John M. Harlow, M.D., of Woburn; Treasurer, F. W. Draper, M.D., of Boston; Corresponding Secretary, C. W. Swan, M.D., of Boston; Recording Secretary, F. W. Goss, M.D., of Boston; Librarian, E. H. Brigham, M.D., of Boston; Orator, G. H. Townsend, M.D., of South Natick; Anniversary Chairman, W. L. Richardson, M.D., of Boston.

APPOINTMENTS.

Dr. M. F. Gavin has been appointed Surgeon to the Boston City Hospital.

Dr. H. W. Cushing has been appointed as Surgeon to out-patients at the same hospital.

BOOKS AND PAMPHLETS RECEIVED.

Æsthetics of Medicine. The Doctorate Address in the Medical Department of the University of Louisville, 1886. By H. A. Cottell, M.D. Louisville, Ky. 1886.

Transactions of the American Gynæcological Society. Volume X. For the Year 1885. New York: D. Appleton & Co. 1886.

The Medical Record's Position Editorially as to the Value of Exsection for Hip Disease. By W. R. Whitehead, M.D., of Denver, Col. (Reprint from Denver Medical Times.)

Address Delivered at the Fourteenth Annual Convention of the Colorado Medical Society, June, 1884. W. R. Whitehead, M.D., of Denver, Late Professor of Anatomy, etc., Retiring President. 1886.

Nineteenth Annual Report of the Directors of the Massachusetts Infant Asylum. Presented to the Corporation at the Annual Meeting, April 13, 1886.

De la Dilatation de l'Estomac chez les Enfants et D'un Nouveau Moyen d'Exploration Pour la ruonnaitor. Note sur la Impérateur de la Paroi Abdominale dans les cas. D'Entérite Aigue et Chronique chez les Enfants. Par le Docteur Moncoroo, Professor de Clinique des Maladies des Enfants de Rio Janeiro. Paris: G. Steinheil, Editeur. 1885.

Le Vaccin de la Fièvre Jaime Résultats Statistiques des Inoculations Préventives Pratiqués avec la culture du Microbe attenué de Janrier à Adut de 1885. Par le Dr. Domingos Freire. Rio de Janeiro. 1886.

Memoria Sobre as Ptomaïnas da Febre Amarella. Apresentada á Academia Imperial de Medicina de Rio de Janeiro afim de obter um logar de membro titular Pelo, Dr. Domingos José Freire. Rio de Janeiro. 1885.

A Manual of Surgery. In Treatises by various Authors. In three volumes, edited by Frederick Treves, F.R.C.S., Surgeon to and Lecturer on Anatomy at the London Hospital. Vol. I., General Surgical Affections, The Blood-Vessels, the Nerves, The Skin. Vol. II., The Thorax, The Organs of Digestion, the Genito-Urinary Organs. Vol. III., The Organs of Locomotion and of Special Sense, The Respiratory Passages, The Head, The Spine. Duodecimos, 1866 pages, 213 engravings. Per volume, cloth, $2. Philadelphia: Lea Brothers & Co. 1886.

Surgical Diseases of the Kidney. By Henry Morris, M.A., M.B., F.R.C.S., Surgeon to and Lecturer on Surgery at the Middlesex Hospital, London. 12mo., 555 pages, with 6 chromo-lithographic plates and 40 engravings. Cloth, $2.25. Philadelphia: Lea Brothers & Co. 1886.

The Surgical Diseases of Children. By Edmund Owen, M.B., F.R.C.S., Surgeon to the Hospital for Sick Children, Great Ormond Street, London. 12mo., 585 pages, with 4 chromo-lithographic plates and 85 engravings. Cloth, $2. Philadelphia: Lea Brothers & Co. 1886.

How to Care for the Insane. A Manual for Attendants in Insane Asylums. By William D. Granger, M.D., etc. New York and London: G. P. Putnam's Sons. 1886.

On Asthma: its Nature and Treatment. Containing an entirely new and Comprehensive Working Hypothesis, Suggestive of New Remedies and of the more Efficient Application of Old Ones. Illustrated by Horace Dobell, M.D., etc. London: Smith, Elder & Co. 1886.

Monthly Nursing. By A. Worcester, A.M., M.D., Fellow of the Massachusetts Medical Society. Boston: D. W. Mason. 1886.

A Manual of Midwifery. By Alfred Lewis Galatin, M.A., M.D., Obstetric Physician and Lecturer in Midwifery and the Diseases of Women to Guy's Hospital, etc. Illustrated with 227 wood engravings. Philadelphia: P. Blakiston, Son & Co. 1886.

Materia Medica and Therapeutics, Vegetable Kingdom, Organic Compounds, Animal Kingdom. By Charles D. F. Phillips, M.D., Fellow of the Royal Society of Edinburgh, etc. Philadelphia: P. Blakiston, Son & Co. 1886.

Spaltpilze und Krankheiten. Dr. J. Schmitt Vortraege. Herausgebeben vom Klutschen Gesellig-Wissenschaftlichen. Verein von New York. No. 12.

? Quiz-Compend? No. 11. A Compend of Pharmacy. By F. E. Stewart, M.D., Ph. G. Based upon Prof. Joseph P. Remington's Text-Book of Pharmacy. Philadelphia: P. Blakiston, Son & Co. 1886.

Programme of Proceedings of the Thirty-Seventh Annual Session of the American Medical Association. Held at St. Louis, Mo., May 4-7, 1886.

UNDERCURRENTS OF MODERN MEDICINE.[1]

THE ANNUAL DISCOURSE DELIVERED BEFORE THE MASSACHUSETTS MEDICAL SOCIETY, JUNE 9, 1886.

BY RICHARD M. HODGES, M.D.

The knowledge accumulated by medical science has far outrun the capabilities of remedial art, in its adaptation to practical use. When we venture into the domain of medical and surgical treatment, the foreboding signs of ignorance and inexactitude are betrayed. The discouraging absence of sure measures of relief, when the hope of alleviation is strongest, only reveals the disproportion between the stimulus to action which is instinctively aroused by the presence of sickness and suffering, and the means to act efficiently. The impulse and provocation to "do something" are too apt to instigate a pretence of knowledge, or to prompt an audacious, irrational, or trifling interference, which subverts comfort but does not cure disease. This anxiety incites us to unavailing prescriptions and modes of procedure, which, worthless as they are, pass into such general use that even the conservative sometimes accept them as articles of faith, scarcely admitting of question.

Therapeutics, when not guided by an intelligent and definite purpose, are superfluous and meddlesome. Surgical operations, which, from the outset, it is known cannot be completed, and into which every surgeon remembers with regret that he has been drawn by some vague expectation of benefit,— the infiltrating epitheliomata, the adherent and fatally located tumors, the malignant growths sure to return, the limbs crushed in railroad accidents, from which he has not withheld his hand,— have certainly contributed nothing to the self-satisfaction of the operator, or helped to advance even the purely mechanical part of surgery.[10]

Prurigo secandi is a malady as obsolete as its designation; and the anxiety to attach one's name to a new instrument, or to identify it with some ingenious surgical device, is not a proclivity of the present generation. It was formerly thought the height of anatomical and operative skill to reach the almost inaccessible foci of certain cranial neuralgias. The undeveloped and atrophied muscles of cleft palates were once, with infinite pains, unrequitedly sewed together. Varices of the legs, and varicoceles, were operated on. Tonsils were cut off with fabulous frequency. Tenotomy was uselessly practiced. Diseased joints, which time and immobility would have cured, were amputated or excised. The operation for cancer of the breast was as habitual as it is now exceptional,— or, at least, as it soon will be.[11]

The aim and endeavor of the present day is to perfect preventive and prohibitory measures, which shall exclude or annihilate disease; which shall render many surgical operations unnecessary, or, when inevitable, shall eliminate from them the extraneous and accidental complications, which not only check the processes of recovery, but imperil life itself. The success of these efforts has rescued our labors from the domain of chance; and favorable results are ensured, in medicine as well as in surgery, under circumstances which were, heretofore, invariably attended by failure.

It seems incredible that members of the profession should have been cautioned, as they were when I was a student, against being "dazzled" by the alleged success of ovariotomy;" or that a distinguished editor should have declared, "a fundamental principle of medical morality was outraged whenever an operation so fearful in its nature is performed."[12]

The intimation that many causes of disease are to be found in the air, the water, the soil, or the food we eat, and the assurance that they are therefore controllable has given activity to the study of hygiene, has made Health a department of the State, and has called into existence a new profession, that of the Sanitary Engineer. The novel problems presented for investigation by these multifarious suggestions are such as can be solved only by exact methods. Their intricacies are followed out in laboratories, with so much greater advantage than in hospitals and sick-rooms, that almost all modern medical knowledge, of which we are so justly proud, owes its existence to purely scientific workers.

The guesses of genius are said to be sometimes more valuable than the demonstrations of mediocrity. "Preconceived ideas, submitted to and controlled by severe experiment, are the vital flame of scientific observation."[13] They give purpose and direction to one's pursuit, and are the working hypotheses essential to the practical application of our knowledge.

One of the earliest verifications of the suspicion that living organisms might be a cause of infective disease, was the result of Pasteur's elaborate study of fermentation. This inquiry led the distinguished savant to surmise, and finally to determine absolutely, the microbial nature of a contagious malady of the silkworm, known by the name *pébrine*, which threatened to extinguish the entire silk-industry of Europe. The practical importance of these investigations, and their economic success, gave a great impetus to microscopic researches into the bacterial character of a large class of diseases, and led to the crucial method of their study by the artificial culture of micro-organisms. The significant issues of these experiments we are only now beginning to appreciate.

The whole order and sequence of facts in any discovery is rarely arrived at. Explanations are only partial, and danger lies in their acceptance as final. In the records of human investigation, however, it would not be easy to indicate measures of more promise,— even in their present state of incompleteness,— than the suggestions for the prevention and cure of disease, which the Germ-Theory has prompted in regard to tuberculosis, cholera, various zymoses, and malarias, as well as in connection with widespread and destructive affections of agricultural and industrial interests. It would be difficult, also, to name an expedient that has proved more humanely useful than antiseptic surgery, which saves life and limb through the, now, almost universal adoption of rigid hygienic precautions, strict cleanliness, and thorough drainage.

It should not be forgotten that these contributions to human welfare have mostly come, as they only could come, from experiments on living animals. Neither should it pass unnoticed, that the knowledge

[1] Concluded from page 534.

[10] "Of one hundred possible operations, twenty are imperatively necessary; twenty are absolutely inadmissible; and the remaining sixty may be performed or not, according to the circumstances; and surgeons may and do err in each of these classes of cases." Professor Verneuil, quoted in New York Medical Record, Jan. 9, 1886, p. 56.

[11] Lancet, March 21, 1885, p. 527. Jan. 9, 1886, p. 72.

[12] British and Foreign Medical Review, Oct. 1843, p. 402.

[13] Histoire d'un Savant par un Ignorant, p. 284.

of two remarkable facts in the economy of nature,— the invisible but perpetual ploughing of the soil by its living tenants, and the relation of germs to disease,— has been derived from the study of creatures seemingly so unimportant as the earthworm and the silkworm.

The success of intelligent effort to avert disease would not be fairly stated, without a distinct recognition of the fact that the alleviation of suffering,— in its restricted and individual sense,— is one of the constant accompaniments of this endeavor.

Pain has its uses. It obliges rest. To prevent pain, or to cure pain which exists, additional pain must not be caused. Infrequent handling and inspection are essential conditions of surgical antisepsis. Rest, physiological as well as mechanical,— which, always excepting anodynes and anæsthetics, implies a masterly inactivity so far as drugs are concerned,— constitutes an immense therapeutic power, fortunately extending itself, by the agency of more and more rational methods of treatment, throughout the whole field of moderm medicine and surgery.

So long as the belief existed that pain was Divinely intended to be a chastening or an improving agent, harmonious and vigorous efforts for its permanent diminution, or for its complete removal, were not to be looked for. The introduction of anæsthesia, by the inhalation of ether, was retarded by such a superstition. The conviction was reached very slowly, especially in certain communities, that the time had come when it was the paramount duty of physicians,— always and everywhere,— to avail themselves of this agency for the prevention of suffering. The logic which converted sectarians to the use of anæsthetics during child-birth, must force the acknowledgment that it applies equally to their employment under all circumstances of severe pain. There can be no longer a doubt of the abstract right to procure insensibility by the use of every accessible resource, whenever pain is constant or acute, and especially when it is associated with hopeless disease. Few medical men, few patients or their friends, now shrink from the responsibility of such a procedure.

Recall the mortal injuries,— which so many of those here present have witnessed on the battlefield,— from wounds received under circumstances rendering the sufferer's removal impossible! What a blessing must have been the unstinted morphine which the humane surgeon left behind him, without questioning whether in so doing he shortened the few possible hours of existence that remained! Who does not give anodynes with a lavish hand in the last stages of cancer! Who will not unhesitatingly soothe the nights made restless by the exhaustion of lingering but certain dissolution! Continuous pain exhausts the physical forces. The life of the great General of our Civil War was prolonged, not shortened by the comforting opiates which solaced the uncomplaining but limited days of his last few months.

If an individual suffers from incurable pain, except while under the influence of anæsthetics, it has been argued that,— with the concerted action of himself and friends, and the concurrence of two or three medical advisers,— and with the adoption of precautions similar to those provided for putting a lunatic under restraint,— it should be allowable to make such an anæsthesia complete and enduring. It is even claimed that a change in our laws which would permit this premature extinction of life,— in cases certain to terminate fatally, and liable to be accompanied to the end with agony,— would produce "benefits simply enormous," and that nursing the hopelessly sick ought to be looked upon as a "nuisance and a danger." We are reminded that suicide, under the conditions assumed, is very leniently regarded by many, and perhaps encounters more sympathy than reprobation. As an escape from certain forms of shame and dishonor, — moral pains,— suicide has been defended as in the highest degree heroic. It is contended that this "cure for incurables" in nowise conflicts with the sanctity of human life.[14]

The impossibility of attaching any importance to the personal consent of a sufferer, or to the request of his friends under the circumstances supposed, need hardly be pointed out. The last stages of painful illness are, as a rule, less painful than those which precede. In itself the act of dying is probably painless. In terrible injuries, which are so often spoken of as illustrations of extreme suffering, shock benumbs the sensibility, and it is not always in our power to distinguish between those cases which are hopeless and those which are not. Recoveries, unexpected by experienced surgeons, follow the most extraordinary mutilations.

I entertain no fear,— because of the presumptive right to evade pain whenever evasion is possible, and endurance can do no good,— that physicians will, therefore, accept the sophistry which claims it equally a right and privilege to deliberately relieve suffering by the permanent anæsthesia of death. It is a matter of fact that we can secure euthanasia without shortening life. The resources for the alleviation of pain are many and efficient. Their practical or successful employment is no longer a question of uncertainty. The universality of their adoption therefore turns, not upon a point of morals, but upon considerations of public safety. These may safely be left to the wisdom, the integrity, and the conscience of the medical profession.[15]

Among the predominant causes of preventable disease in our own community there are two, exercising an influence in youthful life, and particularly among females, which are as universal as those of specific micro-organisms, and scarcely less pernicious. These are insufficient nourishment, and insufficient rest and repose, or, expressed in briefer terms, famishment and fatigue. To counteract these inimical influences, is to control, to a great extent, the conditions of life,— especially of city life. It is an ambitious aim, but one which certainly comes within the scope of a physician's personal effort, if not within his professional province.

It is only of late years that the diet of those not actually sick has received the attention it deserved, either in its bearings upon the healthy growth of the human body, or its defensive power in relation to disease. The data supplied by physiology, the dietetic customs of social classes, the likes or dislikes of a physician's own palate, were, until recently, the guiding

[14] The "Birmingham Speculative Club" formulates the relation of the office of the physician to euthanasia, as follows:— "That in all cases of hopeless and painful illness it should be the recognized duty of the medical attendant, whenever so desired by the patient, to administer chloroform, or other anæsthetic, so as to destroy consciousness at once, and put the sufferer to a quick and easy death; all needful precautions being adopted to prevent any possible abuse of such duty, and means being taken to establish beyond the possibility of a doubt that the remedy was applied at the express wish of the patient." New York Medical Record, September 19, 1885, p. 322.

[15] Appendix VI.

principles by which the alimental needs of physical economy have been regulated. The conflicting advice of medical men still betrays the absence of any unanimity of opinion on this question, considered from a therapeutic point of view, and there is no subject in which personal experience is more fallacious as a guide.[16]

It is a common remark that young people of the present day have poorer health than their fathers and mothers, and especially their remoter ancestors. At the period of adolescence, or before, many live at a rate, and under a pressure, the wear and tear of which parents fail to appreciate; nor do they think of comparing the life which their children lead, with the calm and unexciting conventionalism of their own youthful days, or with what they may have heard described as the routine of their own parents. The "good old stock" of certain sleepy and quiet towns is often alluded to. Some of us, to a degree which another generation will never enjoy, are endowed with a vitality transmitted by the simple habits of the dwellers in the tranquil and well-to-do homesteads of an earlier day.

They grew up with no opportunity of being fastidious. They knew absolutely nothing about luxury, and had not too much of what we call "mere comfort." They had the "reg'lar" and solid meals at "noon-time," which are said to be the foundation of true stability of character, and they enjoyed at least nine hours of sleep every day. They developed into men who were rarely sick, and into women with strength enough to bear and rear large families. These women often possessed an intellectual vigor which inclined them to acquire a masculine education, as well as to devote themselves generously to social, charitable, and other womanly pleasures and duties.

Modern mothers little realize the "brain work" in amusements which, under the thin guise of their possible educational tendency, are made to justify late hours and stinted sleep for growing girls during their school-life; in their practice of music for which they have little capacity, and in which they take but a half-hearted interest; in studies at home, which go so against the intellectual grain, that lessons are imperfectly learned, and forgotten almost immediately; in irregular, prolonged, and motiveless walks, which, as Scott's Antiquary says, "none but a fool or a fox-hunter could require." The effect of this prodigal use of physical energy is to arrest the growth of their forces and faculties, to "knock out" of them the vital functions of eating, drinking and defecating, and to induce an amenorrhœa, whose redeeming feature is that it spares them the waste involved in a monthly loss of blood. It is fatal if girls do too little, and it is disastrous if they do too much. To steer between these two opposing perils is so difficult a task, that the majority of parents end by letting go the helm, leaving the fragile vessel to guide itself, satisfied if they can secure a merely negative condition of health.

[16] Those who have read Sir Henry Thompson's interesting essays on food must not forget that his Lenten views have reference, chiefly to the proper diet for advanced life, not for the growing years of youth. It is obvious that less nutriment is needed as vitality and activity diminish. It should also be borne in mind that the distinguished lithotritist, artist, and æsthete, is himself a Vegetarian. Notwithstanding this, he has a London reputation as the giver of exquisite dinners "graced by sound wine, judiciously chosen dishes, and easily amalgamating guests," always strictly limited in number to eight; and though absolutely a tee-totaller, he takes "the same sort of pride in his cellar which a scientific floriculturist might in his greenhouses, though their contents never have a place in his drawing-room vases." Nineteenth Century, 1885, p. 777. Society in London, p. 175.

A justly distinguished master of the Girl's High and Normal School in this city is reported to have said, that a principal qualification for the office he held should be a good medical education. The first hour of his school day was spent in going from room to room, at the call of teachers, to see pupils who had fainted or vomited, or were in "spasms," in hysterics, or, in some other way, had come to a pass which alarmed the inexperienced. These phenomena he clearly recognized as due to fatigue, insufficient sleep, and the want of an adequate breakfast,— a meal which these girls were too tired to eat; or which they did not think worth wasting time upon, when home duties demanded their coöperation, a morning lesson was waiting to be looked over, or a neglected task to be made up, and a long walk intervened between their homes and the school.

The report of Sir James Crichton Browne, which attracted such universal attention two years ago, states that out of 6580 school-children examined, 3034, or more than 46 per cent., suffered from headache. He attributes this state of things largely to innutritious and insufficient food, and takes pains to say that partial and occasional starvation is not confined to children of the lowest class.[17]

The inference from these statistical facts, or from a single teacher's experience, is not necessarily that school-taxes should be devoted to dispensing new milk rather than education, though they seem to hint that a part of the public money might thus be judiciously appropriated. Alleged overpressure in schools is, in the main, a fallacious assumption. Sound study is an advantage, if the general rules of health are attended to, and for one youthful person injured by excessive application, there are a hundred whose mental condition is deteriorated by want of wholesome physical influences.

The special provocatives of "delicate health" in young females, are in great part social. The deleterious potency of a multiplicity of engagements, of the exacting demands of ambition, fashion and gayety,— and not unfrequently of an early betrothal,— are intensified by the capacity for endurance which belongs to the so-called weaker sex. A girl can tire out her partners in the "German," one after another, and a feeble wife can carry her baby twice as long as her athletic husband. The more strain there is upon the strength of women, the more completely do they forget themselves and their material wants. They submit and give no signs of their emotions, to the depressing influences of misfortune or an unhappy home. They suffer and are silent, with what have been called "bad-husband headaches." They stifle a wounded pride which is deep in proportion to the smallness of the family income, and yield to the aggressive attacks of neurotic influences (the least wearing of which may be the mental), only when the limited energy their bodies possess is exhausted, and which, when once lost, they rarely have the physical capacity, or power of mechanism, to replace.

The bodies and brains of young women, in the wealthiest and most luxurious circles of society, constantly reveal their imperfect nutrition. Refined emaciation, fair anæmic complexions, eyes made brilliant by dilated pupils, decorous concealment of undeveloped busts and slender arms, excitable and restless temperaments, — wanting sometimes in self-control,

[17] Westminster Review, January, 1885, p. 12.

but oftener sobered by over-conscientiousness, — are the retributive symptoms which betray a lack of food, sleep, fresh air, and repose. Some of those who embody these conditions delight to think that Providence has distinguished them from the common herd by certain peculiarities of constitution, and they cherish with great self satisfaction their supposed idiosyncrasies in regard to what they eat, and in reference to various habits of life. The tyranny of prevalent styles of dress sustains them in their vanity. The displaced livers and spleens, furrowed by overlapping ribs, portrayed in dress-reform tracts, and on which the imagination of young women is invited to dwell, should not be half so much of a warning as the compressed stomachs, and the diminished room for their distension, which make tight clothes a common cause of inanition, of functional derangements, and of passive congestions, which show themselves in the mottled arms and red noses of half the belles in a ball room.

It is useless to humor, or to tease with restrictions, the capricious digestions of those who argue over every mouthful of their food, instead of swallowing it, and whose gastric neuralgias and low level of health are dependent on the defective general condition of their bodies. An eminent modern physician has declared that "he never knew a dyspeptic to get well who undertook to regulate his diet;" and the stomach, we are told,— like a schoolboy, — is sure to get into mischief unless constantly occupied. If it behaves perversely, therefore, the doctor must conquer the stomach, and not the stomach the doctor.

We talk and write about "functional diseases," in people such as I have described. It would be more correct to call them "nutritional diseases." Function depends upon nutrition, and nutrition equally depends upon function. No functional condition can exist for a moment, without entailing a change in nutrition; and the extent to which this may be carried, short of organic detriment, is an important practical question in pathology. Any change which the microscope detects,— such as a most trifling variation of aspect or behavior in the presence of reagents,— is simply enormous considered as a modification of molecular nutrition. That visible alteration,— structural disease, in fact,— may have its ultimate origin in pure disturbance of function, is hardly to be regarded as a mere speculative suggestion.[18]

It is not to be denied that New England women, here and there, are improving in outward form. Adipose is being deposited where once would have been only the outlines of a lank and weedy figure. Fashion is quick to embrace the change, and in plastic jerseys generously displays the rounded arms and matron-like figures of those who possess them; or, by aid of thin clinging material, in *robes collantes*, suggests, if she does not reveal, the ample contour of shapely hips and limbs. The world would be the better for a generation or two of healthy and happy, even if unschooled and commonplace mothers. Roundness and plumpness are indications of spare bodily power available for future use, and without them young women cannot be in high health and in condition readily to resist or recover from disease. Happiness goes only with health. Cheerfulness is one of its most visible signs, and the woman who is not cheerful falls short of her vocation in life.

The most superficial observer will perceive that the principal field for therapeutic advance, in the near future, is most likely to be found in the regulation of food, habits, and the incidents of life. Daily and continuous in their operation, these must be of vastly more importance than drugs and "treatment," which are but transient in their influence. We may speculate about ptomaines, leucomaines, and auto-infection, or, with unshaken faith, adhere to the doctrines of bacteriology: but it is still true that the conditions of disease are increasingly traceable to avoidable violations of hygienic law. The care of health, even more than the care of disease, is recognized as the office of physicians. Their duty in this direction has already become the largest and most vital responsibility of the medical office. It is estimated that the annual loss, in the United States, from one single cause, — the preventable typhoid fever,— is twenty-five millions of dollars, in money value.

The average age of the generation is increasing; the general death-rate is decreasing, and there are fewer days of sickness, *per capita*, than when observers began to keep record of such matters. The possession of wealth, with its resultant exemption from privation, lengthens the average of life nearly ten years,[19] and good nutrition is said to be at the bottom of longevity. The saying of the cynic that, in addition to a benign stomach, a bad heart is also essential to health, may, perhaps, be open to doubt, despite the fact that insensibility and indifference must neutralize much of the mental anxiety which undermines physical strength, and weakens self-control.[20]

The attempt to carry on, simultaneously, diverse occupations, and the quick and rushing methods — intensified by the disturbing accessories of the post-office, the telegraph, and the telephone — which shape the entire organization of American life, are attended by such an amount of mental and bodily friction, that Recreation, as a remedy for the trials and cares of all vocations, has identified itself with the resources for preventing disease, not less than the demand for ample nourishment. The business assiduity of the medical profession renders the exaction of this therapeutic precaution an absolute necessity for its active workers, not merely on personal grounds, but on account of the example it sets to others.

Its never-ending labor, which allows no repose day or night, is the great drawback of our calling. Medical men are apt to feel that they have no right, for the sake of personal ease and enjoyment, to lose sight of their appointed stewardship. As a result, they too often degenerate into mere professional machines, and become the slaves of an occupation, rather than its masters. There are men so equably constituted, that, metaphorically speaking, they can "shut up shop" at a moment's notice. Many, if not most physicians, live under a different dispensation. When not pursuing their occupations, their occupations are pursuing them; and they are habitually so busy, that they cannot even pause long enough to take their daily bread with comfortable deliberation. Irregular life, and the meagre care which they take of their own health, make the death rate, especially from suicide, higher among them than in the general male population, or in either of the other principal professions.[21]

[18] Lancet, Nov. 7, 1885, p. 841.

[19] Science, July 10, 1885, p. 37.

[20] Appendix VII.

[21] Lancet, January 30, 1886, p. 203.

The custom of all cultivated and energetic communities, which, during one month out of twelve, calls for some other than the habitual employment, even though it may be physically more fatiguing, goes to prove that diversion and change are forms of rest, recognized as among the imperative demands of health and well-being. They are not weaknesses to be resisted, at any rate, by professional men. The utility of vacation, in stimulating the capacity and refreshing the inclination for active duty, goes far beyond the mere pleasure it affords, or the social relations it cultivates. Respite from labor is a safeguard against those vexations and adversities which sour the temper and shorten the lease of life.

The thought of being able some day to lay down one's burdens is always alluring. At our last Annual Meeting, it was said — not by one of the oldest members — that after fifteen years of practice, a physician had passed the days of his usefulness — he was too old for laboratory work. If the graduating age is to go on increasing, this will not, perhaps, be early for retirement. At all events, it is generally conceded that when he is sixty, a medical man has, as a rule, completed the active period of life; that his ideas have become hardened and stereotyped; that he has accomplished his effective mission, and must leave the path open for other and more youthful spirits.

There are those who have a vague presentiment that, if the harness ceases to brace them up, they shall fall down by the wayside and die; but it hardly speaks well for educated men to become so wedded to routine, that no resources and no pleasures can attract them beyond those within the immediate range of professional occupation. They ought surely to find use for their powers of observation elsewhere than at the bedside. "Successful men may have gained much to retire *upon*, but nothing to retire *to*, if literature, social ties, philanthropic interests, nature itself, have been lost sight of during the rush and struggle of their thirty years of active life."[22]

I have indicated a few of the undercurrent agencies which, within the last thirty-five years, have modified the general condition of professional interests, as they affect medical men and the community, individually and collectively. So imperceptibly and insidiously have innovations become established, that we scarcely realize the change they have occasioned.[23] The retrospect impresses us with the rapid rate at which medical knowledge progresses, and the vigorous life with which its pursuit is followed. The public profit by this general advance, but the actual gain is discernible only to the initiated.

In this Commonwealth, the Massachusetts General Hospital has been a great element of scientific, professional, and social influence — and, perhaps, equally so throughout the whole of New England, for whose extensive water-shed of patients it was, during many years, the only public medical resource. Always in readiness, by wise and liberal expenditures, to adopt improvements, or to be the originator of new designs, it has promoted in many ways the art of caring for the sick in hospitals, and has long been willingly accepted as a typical institution in structural, economic, and sanitary points of view. Much of the reputation and of the popular interest which this hospital has acquired is distinctly due to the wise judgment of its Trustees, and to the independence of their financial and executive management.

It is a satisfaction to remind you of the fact that the resources of the Massachusetts General Hospital have never been perverted to the direct pecuniary advantage of its Medical and Surgical Staff, whose services have always been gratuitous. There are querulous laments about unremunerative devotion to the community, in medical journals and by individual physicians, who complain of too much time bestowed in charity, and deprecate the skill lavished on the poor "without money and without price." These facts have been urged as a reason why "pay-patients," in private rooms or wards, should be either compelled or allowed to remunerate their attending physicians and surgeons; but they have never had weight in the minds of those whose solicitude has guarded the interests of the Hospital in question. On the contrary, from the outset of its history, it has been realized that such a practice might lead to an objectionable appropriation of its beds by the clients of some designing or prominent official, and that it would be inconsistent with the large benevolence of those by whom it was founded and is still sustained. The office of physician or surgeon is more than its own reward. In any great hospital, it is an indirect road to general success in practice; in short, the privileges it involves are so considerable, that these positions would be promptly bought for money, if they were for sale. They are gladly accepted, on the conditions posted in every private room and ward of the Massachusetts General Hospital, that, by his appointment, the physician or surgeon "waives all claim for compensation in money, and performs his duty as a charity to the sick and disabled patients under his care, and for the advancement of medical and surgical science."

It is also a condition, on the part of every patient accepting the services of its physicians and surgeons, "that no payment shall be made for them, and that no claim of any nature, consequent upon such service, can obtain outside of the Hospital, from any member of the staff upon any patient or from any patient upon any member of the staff who has attended him or her in the Hospital." If a patient desires to express his obligation and indebtedness for professional services received, he is invited to contribute to the charitable funds of the Hospital. This invitation is not unfrequently accepted.

To dispense charity, without injustice on the one hand, and without being imposed upon on the other, is so difficult, that societies have been organized for the sole purpose of discriminating between fraudulent and honest claims. The benevolent and unrestricted dispensation of medical assistance does not escape imposition. Admission to hospital-wards, either with or without payment of board, is, undoubtedly, an often abused privilege, so far as the hospital itself is concerned. As a matter of fact, however, instances must be few and far between, in which an attending or a non-attending physician is robbed by an out-patient department, or a dispensary, of the small fees he would be glad to earn: or in which the comfortable honorarium of a specialist is diverted from him by wards or private rooms. Jealousy and distrust are likely to be generated whenever the members of its professional staff have any participation in the financial affairs of a hospital; and pecuniary losses, if they

[22] Dr. Roose. Appendix VIII.
[23] New York Medical Record, October 17, 1885, p. 427.

happen, in consequence of this divestment, are fairly offset by the gain in self-respect, the protection from dissension and from individual avarice, and selfishness, which it offers to those who are associated in the common interests of a charitable institution. That unpaid medical relief exempts such large numbers of people from a necessity for forethought and thrift in regard to prospective sickness, and encourages mendicancy, is another, and, indeed, much graver consideration. Neither the sagacity of individuals, nor the discussions of Social Science assemblages, have yet been able to suggest a method, satisfactory even to themselves, for the prevention of this contingency.

The general public are year by year better instructed; they grow more and more able to appreciate the qualifications of men, and the result of their labors. There is therefore an interest, outside our own fraternity, in the subjects to which I have directed your attention, in this brief hour of discursive talk.

Medicine and hygiene are among the favorite topics of magazines and newspapers. Diagrams of drainage, temperature charts,— even illustrations of bacilli, and of microscopic sections of malignant growth,— are familiar and attractive features of modern journalism. Elementary physiology and hygiene are taught in the public schools. Instruction in "rendering first aid to the wounded" is given to young ladies, as well as to members of the Police and Fire Departments. Diet-kitchens, dispensaries, hospitals, and sanitary-aid societies are managed by laymen. There is scarcely a reading person who has not heard something of the germ theory. A cow-boy in Arizona was recently shot dead in the saddle for the insult implied in calling his partner "a bloody *microbe*."

Much of this popular zeal is the expression of a most laudable desire to diminish the evils of personal and collective environment. The energy and the activity which are directed toward the improvement of public health, and to the beneficent alleviations of sickness, impose an obligation on the community, for its own protection, to facilitate and promote sound learning, by a liberal support of thoroughly equipped schools, and other auxiliary means of medical instruction. The proof of interest in this direction will be found, not so much in moral encouragement afforded by words of approval, as in practical steps taken to furnish the guardians of human health with the best appliances for study and investigation. It is a duty of rich and generous men to supply students with every opportunity to become competent for the most profitable kind of work, by a leisurely, complete, and therefore costly training. So long as medical schools are dependent on the fees of their students for support, the highest results cannot be obtained. The report of the United States Commissioner of Education, in 1883, strongly advised that every medical school in the country should be required by law to procure forthwith an endowment of not less than $300,000.[24] In this matter the interest of professors, pupils, parents, and the public are identical. The motive is not to make schools for a class, or to create free and charitable institutions, but to provide for the permanent maintenance of first-rate education, unrestricted by the embarrassment of expense, and for the diffusion of its influence among the greatest possible number. In an earnest appeal for the endowment of the Harvard Medical School, Dr. Oliver Wendell Holmes has said: "The only way to ensure the independent action of a school which aims at teaching the whole country by example, is to endow its professorships, so that the very best and highest grade of instruction may always be given. A small number of thoroughly accomplished medical graduates will be worth more to the country than twice or thrice the number of half taught, hastily taught practitioners. In the course of a single generation they will elevate the whole professional standard, as they go forth, year after year, missionaries in the cause of health, soldiers, and, if need be, martyrs, in the unending battle of disease and its causes."

[24] The German government has rebuilt the University at Strasburg, at a cost of £711,000, with a yearly grant of £40,000, the plant being divided as follows: — Chemical Institute, £35,000; Physical Institute, £28,000; Botanical Institute, £28,000; Observatory, £28,000; Anatomy, £42,000; Clinical Surgery, £26,000; Physiological Chemistry, £16,000; Physiological Institute, £14,500. (London Lancet, Sept. 19, 1885, p. 535).

A National University was recommended in the annual report (1885,) of Mr. Lamar, Secretary of the Interior. The above figures, as a suggestive estimate of cost, would probably startle Congress, unless it were well assured that the privilege of appointing professors, as well as of dictating their resignation, should rest with Senators and Representatives.

APPENDIX.

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Original Article.

CASES OF MALIGNANT DISEASE OF VERTEBRÆ, WITH "PARAPLEGIA DOLOROSA."

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Case I. On beginning my hospital service last October, I found in one of my beds a somewhat emaciated man, who, however, represented himself as improving, and in whose case no satisfactory diagnosis had been made. He was a German, aged fifty-one, whose history was that of a cough, with muco-purulent expectoration, dating back to the preceding June. There had been no hæmoptysis.

He complained chiefly of a pain in his back, which had lasted several weeks, and which seemed to have its maximum of intensity on the right side just below the ribs, and at first radiated in various directions, though afterward stationary. He had pain on a full inspiration, but moving or sitting up in bed gave him much more. His micturition was scanty and frequent and the urine contained nothing decisive, though somewhat later it was found to contain a very slight trace of albumen and a few hyaline casts, with some granular and fatty ones and uric acid. With a good deal of care and deliberation he was set up in bed and a hasty physical examination made.

At the bottom of the right thorax the line of dulness ran from the nipple a little upward in the axilla, and about an inch below the angle of the scapula. There was some variation in this line with his position. Over this region the respiration was feeble and expiration somewhat prolonged, but not bronchial. There were fine moist râles over both backs. There was tenderness on percussion of the spine opposite the lower end of the scapula.

On the 12th of October, he was brought to the amphitheatre to illustrate the presence of a small effusion at the base of the right pleural cavity, but on moving him from one chair to another he suffered so severe an attack of pain that no thorough examination could be made. From this time the pain on movement became greater.

Percussion, while he was lying in bed, always gave dulness in the lower axilla.

Careful and repeated palpation of the abdomen failed to reveal any tumor or point of tenderness, but it was very evident from his general condition that something more than a moderate pleurisy was present.

On the 21st of October he had several dejections, containing considerable amounts of clotted blood and dark brownish masses. This confirmed the impression which had been growing in our minds, of a cancer connected with the vertebræ, which had ulcerated through into the intestines.

This, however, was not repeated, but he grew steadily weaker, became almost absolutely motionless in bed, his cough increased, the expectoration became abundant, muco-purulent, and at last bloody.

The day before he died, October 23, there was said to be no pain on pressure over the vertebræ, but the same severe pain on motion.

There had been at no time any enlargement of the lymphatic glands or spleen.

The autopsy showed that the liver was situated higher up than usual in the abdomen, a cavity corresponding to the dulness found during life. There was no pleurisy and no pulmonary lesion but bronchitis. There was no fluid in the abdomen, and for a time the autopsy seemed likely to be entirely negative.

On the side of the vertebral column, on the bodies of some of the middle dorsal vertebræ, were two or three flattened gelatinous masses, the largest as large as a quarter of a dollar. The lower ribs were found to be soft and fragile near their heads, and a knife could easily be thrust into the bodies of the vertebræ. A piece of the vertebræ column, including five dorsal and three lumbar vertebræ, was removed, and a section made by Dr. Whitney. The bodies of the vertebræ were found to be softened, many of the spaces being filled with a grayish, gelatinous material which, at some points, formed distinct rounded tumors as large as small peas, clearly marked off from the surrounding cancellated tissues. The same material evidently invaded the laminæ and spinous processes. In some places it had penetrated the wall of denser bone and communicated with the spinal canal, but the membranes were intact and nowhere had they been pressed upon or inflamed.

Dr. Whitney, from his preliminary examination, judged the new growth to be a large round-celled sarcoma.

Case II. I. M., aged fifty-five, carpenter, had good health until June, 1879, although he had lost some flesh previously. He then began to have pain in his legs, both anteriorly and posteriorly, most severely in the right. At the time of his entering the hospital he had been unable to walk for three months, and he could not turn in bed. There was no distinct paralysis but general loss of strength in the legs. There was great pain in the hips but no difficulty about passive motion of the legs. There was great emaciation. The temperature was 98°, pulse 80. Nothing in the thorax by auscultation or percussion, except a moderate systolic murmur in the fifth intercostal space. The urine was of specific gravity 1022 with a trace of albumen, a very few blood corpuscles, a few small hyaline casts, and oxalate of lime.

Nothing by palpation in the abdomen.

A few piles, a rectal ulcer, and a short sinus not opening into the bowel were found to have no connection with his other troubles.

No minute examination was made of the condition of his legs for obvious reasons, and little was done except to relieve his pain.

At the autopsy, the body of the second lumbar vertebra was found to be replaced by a new growth projecting but little anteriorly, though rather more to the right than to the left of the median line. The intervertebral cartilages were implicated in the new growth, as were also a portion of the first and

third vertebræ. The transverse process and laminæ of the second were but slightly diseased. In the right psoas muscle was a growth the size of the fist, implicating the muscle and infiltrating its fibres. There were several small secondary nodules in the liver. The new growth was gray in color, soft, rich in bloodvessels and contained one or two hæmorrhages.

The microscope showed the disease to be round-celled sarcoma with numerous giant cells.

CASE III. In April, 1884, I saw, with Dr. Worcester, of Waltham, a woman, aged thirty-five, who had had two children, had been in the Adams' Nervine Asylum, and had suffered from so-called "rheumatism," which seemed to prevail in her family. Her first attack was in October, 1882, and her back had not been well since. In the winter of 1883 she had a fall which made her very lame for a few days. About this time, though apparently not as a result of the accident, she had to pull herself up by the arms from the bed or a chair.

In June, 1883, she was very lame and went to bed for a rest, having "sciatica." Was in bed all summer but in the autumn was able to go down stairs, and occasionally up, by pulling with her arms.

I found her in bed, crouched down, with neck much bent forward, giving the impression almost of spinal caries, though there was no definite angularity.

When at rest she had steady pains in her legs from the feet up to the small of the back, though worse below the knee. Sometimes one side and sometimes the other was more painful.

On rising complained of great pain in right leg. Flexing the head gave pain in the back of the neck, but rotation did not.

There was no prominence or tenderness of the spinous processes.

She could move her feet quite well, but there was no patella reflex, nor ankle clonus.

Nothing could be found by physical examination of thorax or abdomen, except a slight systolic souffle, and the opthalmoscope revealed nothing. Several months before I saw her, her urine was noticed to be increased and she passed four quarts, more or less, per diem. It was of low specific gravity, pale, and contained occasionally a slight trace of albumen and a few hyaline and granular casts.

The patient died about a month afterward with an attack of dyspnœa.

The diagnosis in this case lay between an interstitial nephritis, and some affection of the spinal cord, perhaps dependent on disease of the vertebral column itself. Although the character of the urine seemed to favor the former, the absence of cardiac hypertrophy, of dropsy, of persistent headache, or vomiting, and albuminous retinitis excluded it as the essential disease.

The autopsy was made by Dr. Mead of Watertown. The spleen was four times its normal size, full of hard nodules, of the average size of a pea, but some both larger and smaller than this, dark-red, some of them gray.

Kidneys of about the normal size, somewhat lobulated. Capsule adherent. Cortical substance not much thinned; uric acid infarctions.

Both ovaries enlarged and dense. Small polypus in uterus, cyst on one tube. The other thoracic and abdominal organs presented no points of interest.

Upon opening the cranium the dura mater was found firmly attached to the parietal bones, on both of which were found firm elastic elevations of one line from the level of the inner surface over a space of one or two square inches. A section showed the whole bone to be vascular and in patches distinctly marked off from the healthy bone, a soft and pink structure. Over each orbit a tumor, the size of a filbert, in the dura mater.

The brain was normal. Upon cutting into the vertebræ to remove the spinal cord, they were found very soft, so that the saw penetrated with great ease.

A small portion of the spinous processes removed for this purpose, shows an extensive infiltration of the bony structure with a new growth, leaving in some places only a thin shell of bone. It had not, in the fragment removed, penetrated the spinal canal, though it may have done so at some other point.

The microscope shows the new growth to be true cancer. I have no record of the condition of the bodies of the vertebræ, but they were undoubtedly softened.

The ovaries were cancerous. The spinal cord showed some grayish patches in the posterior columns and possibly, by the microscope, a slight sclerosis in the same region.

In the pons was an oval cavity with a slight capsule filled with small rounded or polygonal cells with one nucleus. This extended from a little on one side of the median line, somewhere about the middle level of the pons, to the upper border in about the median line.

CASE IV. I. T., aged forty-eight. Two years ago, and again six months ago, "rheumatic" pains in arms and shoulders. Present illness began two or three months ago with pain, numbness, and gradual loss of power in his legs. The pains were situated in the back and legs and were of a sharp, shooting character, lasting four or five days. He worked up to two weeks ago, but for the last week has been unable to use his legs. Involuntary and nearly unconscious micturition.

December 11. There is a prominence over the sternum which he says has been present a year. He is unable to move legs in bed. Sensation is somewhat diminished in both legs up to about the middle of the thigh. There is some pain in the back but not very severe, and no girdle sensation. Plantar and patellar reflexes present.

December 15. Decided anæsthesia from middle of leg down. Plantar and patellar reflexes absent. No motion.

December 22. Total anæsthesia of soles of feet. Reflexes absent. The complexion was very white without a trace of yellow, the skin thin and finely wrinkled. Bed-sores.

January 2. Anæsthesia extends above hips. No reflex until region of hypochondrium is reached.

January 8. Has been mildly delirious for some time. Thinks he can get up and walk.

January 17. Died.

The temperature throughout his stay in the hospital was not very far from normal, on two occasions rising to between 100° and 101°. Pulse 70 to 120. There was but little complaint of pain anywhere and the tumor over the sternum was never alluded to in the presence of the attending physician either by the patient or attendants.

The diagnosis was, consequently, myelitis involving the lumbar enlargement of the spinal cord, its origin as a compressive myelitis not being suspected.

Autopsy twenty-six hours after death by Dr. Gan-

nett. Over the sternum from first to fifth ribs nodulated mass lying beneath the skin, twelve c. vertically nine c. transversely and elevated three c. m. above sternum. Another somewhat smaller mass corresponded to this upon the under side of the sternum and the anterior mediastinum contained a similar nodule, larger than an English walnut, adherent to the pericardium and right lung. In the vertebral column the bodies of the eleventh and twelfth dorsal and first and second lumbar vertebræ were occupied by a yellowish gray material, in part translucent, in part opaque. The tissues lying to the outside of the bodies of the vertebræ contained nodules of similar character. The tumors previously described as attached to the sternum and occupying its substance were composed of similar material. The vertebral canal corresponding to the diseased vertebræ was diminished to about one-third of its usual size. At this neighborhood an elongated, grayish tumor was attached to the dura mater. The spinal cord was here considerably flattened antero-posteriorly, its substance soft, the distinction between gray and white matter lost. In the dorsal region the consistency was diminished. The ninth rib on the left, and fourth and eleventh on the right, contained nodules of the new growth. There was secondary cancer of the liver. The bladder was in a condition of hæmorrhage and catarrhal inflammation. The other organs presented no points of special interest.

The microscopic examination of the cord was difficult on account of the extreme softness. Granular corpuscles were, however, found in the lumbar enlargement, and after such hardening as was possible, the structure was found to be much changed. The new growth was said by Dr. Gannett to be a sarcoma.

Case V. I find in the hospital records the following, which presents interesting points of resemblance and dissimilarity to the foregoing.

C. B., aged forty-three, was in the surgical side of the hospital for schirrus of right mamma. She suddenly lost power in her legs and was transferred to the nervous department. She had also pains in her shoulders, and her arms were painful on motion. There was a partial paralysis of the arms and anæsthesia of the lower part of the body. Retention of urine. The bodies of the three lower cervical and first dorsal vertebræ were in a state of cancerous degeneration.

After assembling the first three of this interesting group of cases, I came by chance upon some remarks of Charcot[1] of which I present an abridgment, and two cases reported by Cotard.[2]

Charcot says that his predecessor at the Salpêtrière, Cazalis, was in the habit of remarking that in patients dying with cancer of the breast one very frequently found secondary deposits, usually multiple, in the bodies of the vertebræ, especially in the lumbar region. Charcot himself has had an opportunity to confirm the observation, but has found, in addition, that, while the vertebral cancer usually remains latent, it is sometimes betrayed during life by a train of symptoms to which he gives the name of "*paraplegia dolorosa.*"

These are pains of which the principal seat is in the lumbar region but which radiate through the whole extent of the lower limbs, not however localized in the trunks of one or several nerves. A painful sense of constriction in the lower part of the abdomen is sometimes present. The pains are lancinating in character, worse at night, often accompanied by a sensation of heat or cold. There is always formication, especially in the extremities. There is, however, no loss of sensation, but, on the contrary, slight contact is clearly perceived and may even cause severe pain. There is no appreciable disturbance of the muscular sense. (This was written in 1865, before the importance of patellar reflex was known, and its condition was not noted.)

There seems to be no complete paralysis, but walking becomes more and more difficult and muscular atrophy takes place, so that after a time, it is impossible. The functions of the rectum and bladder are unaffected, nor is there a tendency to rapid formation of bed-sores. These symptoms have been noted six times in thirty-five cases of cancer of the breast; may come on at various periods of its development, and are just as likely to occur in cases which have been operated on, as in those left to themselves. In three cases, post-mortem observation has shown cancer in the lumbar vertebræ. Twice the neoplasm formed more or less distinct tumors imbedded in the spongy structure; in the third, it was more generally infiltrated. There had been some compression of the cord, either by the tumors themselves, or by a curvature due to weakening of the spine. Charcot mentions Trousseau, Velpeau and Nélaton, as having seen similar cases, but thinks that he is the first to call special attention to the facts.

Cotard reports two cases as follows:

B., aged seventy-nine; pains in kidneys and lower limbs, with weakness of the latter; diarrhœa; death. Colloid cancer of breast; little cancerous masses in the lungs; cancerous tumor attached to the body of the third lumbar vertebra, projecting into abdominal cavity; body of the vertebra itself cancerous and collapsed; some cancerous nodules in the fourth lumbar vertebra. These tumors were constituted by a large quantity of finely-granular, spherical nuclei and laminated tissue. There were no cancer cells found; (small-celled sarcoma (?) E.).

V., aged sixty-nine; ulcerated cancer of breast, beginning six years previously. For one year, pains in the breast and in the lower limbs. Six months ago, the pains came into the back and upper limbs, with swelling of the fingers. At the same time, the pains of the lower limbs disappeared. Diarrhœa; death. The vertebral column presented a considerable lateral deviation, with sinking in of the bodies of the vertebræ at the level of the twelfth dorsal, first and second lumbar. The twelfth dorsal and first lumbar are collapsed. Cancerous masses may be observed in the whole extent of the dorsal and lumbar regions. The body of the first dorsal (lumbar?) is almost entirely cancerous. These tumors present, under the microscope, many cells with large nuclei, and some cells with multiple nuclei and of various forms. Atrophy, with increase of connective tissue in the nerves of the lumbar plexus. No appreciable alteration of the nerve tubes. Secondary cancer of the liver.

In a short search, with the aid of the Index Catalogue, I find the following cases and remarks:

Terrier[3] says he has often spoken of the sciatic pains in cases of cancer of the breast. There may be paraplegia, but the cord is not necessarily attacked. These symptoms are often observed in women, but he gives the case of a man who had cancer of the breast,

[1] Comptes rendus de la Société de Biologie, 1865, p. 28.
[2] Id., p. 140.
[3] Journ. de Med. et Chir. Pratiques 1874, XLV., 250.

who had there severe pains, but no paraplegia. He could not, however, walk. There was no deformity of the vertebral column, but pressure in the sacral region was painful. The third, fourth, and fifth lumbar vertebræ, and part of the sacrum, were invaded by cancerous degeneration. The laminæ, transverse apophyses, and spinous processes were replaced by tissue of a whitish, cartilaginous appearance, crying under the knife, but easy to cut.

Jeaffreson[4] narrates a case which began with severe pain in the right hip-joint. Then a tumor appeared in the abdomen, which was not tender, and seemed to have no special connection with the pain. Afterwards, there was severe pain darting down the right thigh and the course of the crural nerves, followed by similar symptoms in the left. This was succeeded by aching pain in the lumbar region, and the appearance of a soft, pulsatile swelling. There was no paralysis of the lower limbs, but loss of power to stand, on account of pain. There was no paralysis of bladder or sphincters. Hæmaturia.

At the autopsy was found cancer of the left kidney, and right supra-renal capsule and lumbar glands. The bodies and arches of the first and third lumbar vertebræ were infiltrated with soft cancer. The vertebral canal was not encroached upon, and the spinal cord was not altered, but the nerves were involved in the infiltration. The lungs were cancerous, and there were calculi in the kidneys.

A case of painful paraplegia, with sarcoma of the vertebræ, is reported by G. W. H. Kemper.[5] Another is given in the *New York Medical Journal*, January 30, 1886, by Dr. A. F. Currier.

Hughlings Jackson[6] reports a case of cancer, with sudden loss of sensation and motion, where he thinks the cord was infringed upon by cancerous deposit pressing in *between* the laminæ.

These cases need no extended comment, but the following points may be noticed:

The symptoms appear to be nearly the same, whether the cancerous invasion of the vertebræ be primary or secondary, from sarcoma or carcinoma. Pain on pressure, on standing, or sitting up quickly or turning over in bed, is often noticeable. This seems to be due to the disease in the bones themselves, without reference to pressure or irritation of cord or nerves. Pain in the nerves of the lower limbs (in Case IV, of the arms,) is an early symptom, which may disappear more or less completely at a later period. Case I, *may* have been an exception. Pain in the limbs in this case is not distinctly described, though it is said to have radiated from the painful spot in his back. This pain is due to pressure or irritation either of the nerves or cord. If the cord is pressed upon, it may be disorganized, and complete paraplegia result.

In Case IV, the rapid disappearance of the reflexes is of interest, as probably dependent upon the progress downward of the disorganization of the cord, whereby the small portion of the lumbar enlargement, sufficient to maintain the integrity of the reflex circuit for a time, was later destroyed.

— Two Boston firms of wholesale grocers have been arraigned by the State Board of Health on the charge of selling molasses adulterated with salts of tin.

[4] Trans. Path. Soc., 1868, 126.
[5] Journal of Nervous and Mental Disease, Vol. XII, p. 9.
[6] Medical Times and Gazette, February 1, 1862.

Reports of Societies.

THE ONE HUNDRED AND FIFTH ANNUAL MEETING OF THE MASSACHUSETTS MEDICAL SOCIETY, JUNE 8TH AND 9TH.

NATURE, the guide of the members of the Massachusetts Medical Society, according to its motto, smiled blandly, with bright skies and clear air, upon her followers upon the occasion of the annual meeting in Boston; and, in harmony with the enlivening weather, the attendance was good and the interest continuous. For the day before that of the annual meeting, the ordinary provisions had been made by the committee of arrangements, who also selected Huntington Hall, in the Institute of Technology Building, for the place of assembling.

AT THE HOSPITALS.

Tuesday morning, June 8, was given up to hospital visits, and a variety of operations were afforded by the various surgical amphitheatres.

At the Massachusetts General Hospital, the following operations were done: Removal of fatty tumor of back, amputation of breast, litholopaxy, radical cure for hydrocele, removal of hæmorrhoids, stricture, excision of cervical glands, by Dr. H. H. A. Beach; radical cure for varicocele, Dr. C. B. Porter; excision of knee, removal of cervical glands, Dr. M. H. Richardson. The same surgeons showed a number of cases exhibiting good results from operation.

At the City Hospital, the operations included a trephining of the skull, on account of the symptoms of a depressed fracture, and removal of enlarged inguinal glands, by Dr. C. D. Homans; operation by suture of the ring for the radical cure of a hernia of seven years' standing, removal of mammary cancer, removal of a sarcomatous tumor of both groins, united by a band across the pubes, succeeding an operation a year previous for sarcoma of the scrotum, exploration for, and removal of a bullet which had struck the jaw and glanced into the posterior part of the neck, by Dr. George W. Gay. These were performed antiseptically, using the method of irrigation. Dr. H. W. Williams also performed a painless operation with the use of a two per cent. solution of cocaine, dividing the capsule of the lens for the relief of secondary cataract. Dr. Gay showed a case in which a part of the jaw, and nearly all of the tongue, had been excised two years ago for cancer, in which there had been no recurrence of the disease, and the patient could talk so as to be understood; also, the result of a rhinoplastic operation for lupus.

At the Children's Hospital, Dr. E. H. Bradford and Dr. A. T. Cabot operated on cases of club-foot, webbed knees, and bow-legs, (with osteotomy and osteoclasis). In the wards were shown cases of a similar nature, and also cases illustrating various stages of hip disease and spinal caries.

FIRST SESSION.

The first session began at 2 o'clock, a later hour than usual, the President, Dr. Charles D. Homans, in the Chair, and by the time the proceedings were well under way, a large audience was present.

The first paper was entitled

ABUSE OF MEDICAL CHARITY: A REMEDY APPLIED IN 3,000 CASES OF OUT-DOOR PATIENTS: RESULTS, by DR. FREDERICK F. DOGGETT, of Boston.

The reader gave statistics as to the reception of free medical treatment by unworthy persons in large cities, and proposed a regular system of inquiry into the circumstances of charity patients.

DR. HASTINGS, of Boston, commended the plan, but suggested difficulties in the way of its general adoption.

DR. MORONG, of Boston, advocated investigation by an agent appointed by the Trustees of the Associated Charities.

DR. JOHN L. HILDRETH then read a paper upon

DOES THE LAW RECENTLY ENACTED BY THE LEGISLATURE PREVENT THE SPREAD OF SCARLET FEVER?

taking the ground that the present requirements do not go far enough, and claiming that separation and isolation were absolutely necessary, in which he was sustained by Dr. Abbott and Dr. Durgin, who took part in the discussion.

The next paper was upon

THE PRESENT STATUS OF BACTERIAL PATHOLOGY AND ITS RELATION TO THERAPEUTICS,

by DR. ALBERT N. BLODGETT, of Boston.

The reader accepted the germ theory of disease, but doubted that thus far it had advanced therapeutics.

DR. ERNST claimed that it made an earlier diagnosis possible, and therefore was a gain to preventive medicine.

DR. WILLIAM E. BOARDMAN, of Boston, followed with a paper upon

THE MANAGEMENT OF CASES OF RIGIDITY OF THE OS UTERI IN LABOR,

suggesting the wisdom of earlier interference.

A paper upon

A NOT WELL-RECOGNIZED SOURCE OF DOMESTIC POISONING, WITH CASES,

was then read by DR. CHARLES HARRINGTON, of Boston, the poisonous article being the bichromate of potassium, now largely used as a mordant in dyeing, but whose deleterious effects had but recently come into notice. Several cases of poisoning from this source were detailed.

The afternoon exercises closed with a paper upon

ABDOMINAL CELLULITIS,

by DR. JULIAN A. MEAD, of Watertown, an exhaustive *résumé* of the subject.

BACTERIOLOGICAL EXHIBIT.

At the new building of the Harvard Medical School, Dr. H. C. Ernst, the Instructor in Bacteriology, had arranged a very instructive and interesting exhibit of the material and apparatus employed in the study of germs, which he was himself present to explain to a large number of inquiring visitors. These included the apparatus for the sterilization of gelatine and argar-argar ("Japanese isinglass,") air, water, test-tubes, etc.; a large number of specimens of pathogenic and non-pathogenic bacteria, preserved in gelatine and argar-argar, and showing plainly how certain bacteria produce pigment in the latter, and not in the former; specimens of mould and fungus; sections of viscera, showing, under the microscope, the tubercle-bacillus and the bacteria of actinomycosis; and an apparatus containing sterilized gelatine, through which the air of the room had been drawn, showing the bacteria present; in short, all of the apparatus needful for the general processes of cultivation, preservation, and examination of bacteria.

CONFERENCE OF CENSORS.

The conference of the Censors of the various district societies, which has now become associated with the Annual Meeting, was held at half-past two Tuesday, at the Medical Library. There was a good attendance, nearly every district being represented; and from nearly every quarter, there was reported a gratifying tendency towards a higher standard in the examination of candidates for admission to the Society. It was regarded that there was a steady approach towards a uniform standard of requirements in the various districts.

SECOND SESSION.

The annual meeting proper was called to order at 9 A.M. on Wednesday, by the President, CHARLES D. HOMANS, M.D. The records of the last annual meeting were read by the recording secretary, Francis W. Goss, M.D., of Roxbury, and were approved by the meeting. There have been seventy-eight new fellows admitted to the society during the last year, and thirty-one have died. The treasurer, Frank W. Draper, M.D., of Boston, presented his report, from which the following figures are gleaned: Last year's balance, $1,710.73; total receipts, $10,452.40; total expenditures, $8,685.03; balance this year, $1,767.37; total balance, $3,478.10. The invested funds are $32,420.17, bearing interest at the rate of 4 per cent. Thirteen members of the society have forfeited their membership by removal from the State. The names of three fellows have been dropped from the rolls on account of delinquency in payment of fees. There are now 1,605 fellows in the society.

The following papers were then read:

AN EPIDEMIC OF MALARIA IN EASTERN MASSACHUSETTS IN 1885,

by ZABDIEL B. ADAMS, M.D., of Framingham;

THE CAUSATION AND TREATMENT OF LATERAL CURVATURE,

by EDWARD H. BRADFORD, M.D., of Boston;

SOME OF THE RESULTS OF FRACTURES,

by JOSEPH E. GARLAND, M.D., of Gloucester;

THE ETIOLOGY AND TREATMENT OF SUMMER DIARRHŒA OF INFANTS,

by HENRY C. HAVEN, M.D., of Boston.

The following delegates were then introduced; John H. Cutler, M.D., Peterborough, N. H.; Christopher A. Sanborn, M.D., Newport, N. H.; Frederic H. Gerrish, M.D., Portland, Me.; W. F. Morrison, Providence, R. I.; Robert Westcott, M.D., Elizabeth, N. J.

Succeeding this came a short intermission, during which there was opportunity for the renewal of old acquaintances and the formation of new, or for inspection of the vast variety of pharmaceutical products which the industrious venders displayed in the lower rooms, and at the hotel across the street.

THE ANNUAL DISCOURSE.

At 12 o'clock, the Fellows were again called to order to listen to the annual address, delivered by Richard M. Hodges, M.D., of Boston, upon "Undercur-

rents of Modern Medicine," and which is printed in full in the Journal.

At the conclusion of Dr. Hodges' address, which was warmly received and frequently interrupted by applause, the president-elect, THOMAS HOVEY GAGE, M.D., of Worcester, was escorted to the platform and said: I was unfortunately unable to attend the meetings of the society yesterday, and that of this morning. I have but just arrived in the city, and did not know until this morning the very distinguished and entirely unexpected honor which the councillors have conferred upon me by choosing me to the presidency of the Massachusetts Medical Society. I can only say that I trust I appreciate duly the honor, and I hope I appreciate, also, the responsibility which it has brought. To preside over the deliberations of a large and enthusiastic body of scientific Fellows like this, is a task not to be lightly assumed or unadvisedly taken. If I attempt it, I shall need your constant coöperation to make my operations successful. I shall, perhaps, many times need your indulgence; I may require your forbearance, but I trust that these favors, when required, will not be denied me. I shall accept the position to which I have been assigned, and give you the best service of which I am capable. I can only add an honest hope that the acquaintance we are about to form in entirely new relations may prove to be mutually agreeable and profitable.

A vote of thanks was passed to the orator of the day, and the meeting of the society was then adjourned.

THE ANNUAL DINNER.

After the annual fashion, the Fellows were marshalled in order of seniority of membership and proceeded to the skating rink on Clarendon Street for dinner. The arrangements of the spacious room were about on the same plan as last year. Music was provided by the Germania orchestra, and the dinner by the proprietors of Hotel Brunswick. The tables were well filled, the large predominance of younger men being a matter of comment. There was an increased number of the gentler sex. The Fellows were called to order by the anniversary chairman, Dr. E. B. Harvey, of Westboro', and grace was said by the Rev. Minot J. Savage of the Church of the Unity, Boston.

The platform was occupied by the following men of prominence, among others, besides the officers of the Society and delegates from other societies: President Pillsbury of the State Senate, Surgeon-General A. F. Holt, Professor Hartwell of Johns Hopkins, the Rev. M. J. Savage, Drs. H. P. Walcott and F. W. Draper, of the State Board of Health, Drs. H. W. Williams, B. E. Cotting, C. J. Blake, C. F. Folsom, G. H. Lyman, W. L. Richardson, H. I. Bowditch, S. H. Durgin, Alfred Hosmer, F. K. Paddock, J. G. Blake, G. H. M. Rowe, D. W. Cheever and G. W. Gay.

When cigars were reached Dr. Harvey began the post-prandial exercises with the following introduction: —

FELLOWS OF THE MASSACHUSETTS MEDICAL SOCIETY, — To these closing festivities of our Annual Meeting, it is my official duty to welcome you. On this rare June day we are assembled from all parts of the Commonwealth, from the Cape to the Berkshire Hills, a thousand strong, to join in friendly greetings, to exchange kindly salutations, to utter new vows of loyalty to our profession, and, in honor of those illustrious philanthropists who, more than a century ago, laid, firm and strong, the foundations of our organization, to contribute another chapter to our magnificent history of a hundred years of medical progress.

We are especially honored to-day by the presence of distinguished guests, men eminent in the other professions, representatives of the press, the forum and the pulpit, halls of legislation and institutions of learning. Distinguished gentlemen, too, of our own profession, from other State societies and State institutions, honor us in like manner. We gladly extend to them the hand of fraternal greeting, and welcome them to this festal occasion.

Several of these gentlemen will be formally presented to you this afternoon, whom I know you will regard it a privilege, and find it a pleasure, to hear.

Fellows, wisely you have not made it the duty of your presiding officer on this occasion, to offer any remark, or suggestion even, touching the interests or concerns of our society work; but you will permit me, I trust, in a word or two, to congratulate you on the high order of the discussions, and the interest manifested, throughout this anniversary, so indicative of the continued prosperity of the oldest and largest and best known of the State medical societies in this country. I further congratulate you on the fact that everywhere in the medical world, membership of this time-honored society is regarded as a mark of high attainments, and of honor to him who bears it. As from its beginning, the Massachusetts Medical Society is the steadfast patron of scientific research, untrammelled by creeds and dogmatic formula, ever conservative and yet in the highest degree always progressive. The advancement of medical science for the welfare of the race is its great purpose. I therefore offer you this sentiment:

"The Massachusetts Medical Society,"— ever active and foremost in promoting the great objects of the medical profession.

The president-elect, Dr. Thomas H. Gage of Worcester, was called upon to respond, and spoke as follows:

MR. CHAIRMAN,— It is an agreeable official duty, however unworthily or inadequately it may be performed, to acknowledge, in behalf of the Massachusetts Medical Society and this vast concourse of its Fellows, so complimentary a sentiment as that you have just uttered. It is especially agreeable to me because I know the sentiment to be an expression of your sincere belief, and not a merely polite and meaningless formality. And it is agreeable also, because I know the compliment to be justly deserved.

But, Mr. Chairman, if my understanding of the matter is correct, the Massachusetts Medical Society was not founded by our fathers for the particular purpose of promoting the interests of the medical profession. It was founded in recognition of a simple but imperishable truth, namely, "that health is essential to the happiness of society;" and its express object was the protection of society from quacks and impostors whose practices endanger public health. It was, sir, more to promote the highest interests of society than those of the medical profession that it was incorporated; and to this great corporate duty it has been never for a moment unfaithful. And yet it is a fact, and a fortunate fact, too, that, through the wisdom and foresight of those who have managed its affairs, the scope and meaning of protection to society have been in theory and practice so broadened out as to make

the promotion of medical science and the elevation of the medical profession the principal object, of its solicitude and care. And it has, to the accomplishment of these objects, invited and encouraged on the part of its Fellows independent and original medical inquiry. It has gathered together the results of such inquiry, and has attempted to gather also (to some extent, at least, so that all should not be lost) the vast experience of its members; and the knowledge so gathered it has diffused again and scattered abroad for the general good. It has made it an object of especial care that each of its Fellows should have annually in his hands an epitome of current medical literature, to suggest, at least, the wonderful activities and progress of medical science. It has surveyed, from time to time, under the light of general discussion and mutual reflection, the positions attained in the experience of its Fellows, thus seeking to give a sound guidance in the application of newly presented knowledge and principles to practical duties. It has contributed its full share to the awakening of the present remarkable and auspicious interest among both profession and laity in sanitary science and preventive medicine, and has done much, not only to develop but to direct that interest. It has influenced and controlled the legislation of the Commonwealth in regard to matters pertaining to the public health, and in regard to the relations of medicine and the medical profession to criminal investigations. It has encouraged, by every means in its power, higher medical education and a better preliminary preparation than formerly on the part of the medical pupil, and it has steadily advanced the standard of its requirements for membership. And finally, sir, it has gathered into one vast social organization the members of the medical profession from every part of the Commonwealth, and made of one brotherhood, if not one blood, all who, according to the faith and purpose of the fathers, "worship in this mountain."

Such, Mr. Chairman, are a few, a very few, of the accomplishments and attempts of the Massachusetts Medical Society which entitle it to be alluded to as ever active and foremost in promoting the great interests of the medical profession. The mere mention of these will suggest to the minds of my audience a hundred others of greater importance still.

And now what will be the future of the relations of this society to the profession? Why, sir, it will be just what we and those who come after us shall make it. It lies with us and them. And yet I have no doubt whatever that it will be growing year by year still more honorable to the wisdom and the acquirements of those who manage and control this organization, still more useful to the scientific constituency of which the society is composed, and still more advantageous to the community.

I give you, sir, and the Society this thought: *Fellowship in the Massachusetts Medical Society,*— now and always an honor,— it may become in the future the proudest distinction attainable in the medical profession.

In the unavoidable absence of Governor Robinson, the Hon. Albert E. Pillsbury, president of the State Senate, was called upon to represent the Commonwealth, and spoke substantially as follows:

LADIES AND GENTLEMEN, — Who would have thought even five years ago that I might say to-day *ladies* and gentlemen? Who would have expected to see millinery in this assembly? I congratulate you upon that liberal spirit which has enabled you to include in your membership that sex without which, even I, a bachelor, may be permitted to say, all human arrangements are imperfect. I congratulate also these (misnamed) Fellows upon their presence at this dinner, even at the expense of being smoked out. What an industry, by the way, this business of dinner giving is becoming! To all of them the State officials are invited, and it has become one of our chief duties to attend them.

We may live without books — what is knowledge but grieving?
We may live without hope — what is hope but deceiving?
We may live without love — what is passion but pining?
But where is the man that can live without dining?

Your numbers here are proof enough that you neither need nor take your own medicine, and in the seat of the chairman I see a gentleman whom I judge from his name and appearance to be the original discoverer of the circulation of the blood. Governor Robinson cannot be here, and, by an application of the rule of similia similibus, that I should not have expected from you, I have been invited to take his place. It is well known, however, that we of the Senate make no mistake. There is always good reason for all that we do. We have no eye at the State House for the main chance, no thought of votes or the next election. There were some things in 1879, however, that may not have been exactly right. The creation of the Board of Health, Lunacy and Charity has been alluded to. I do not suppose that a single member of the legislature which enacted that law, or the governor who signed the bill, ever really believed in it. You may entertain a faint recollection that, in or about 1879, a very distinguished citizen of Massachusetts, then recently removed from Gloucester to Lowell, was of the opinion that there was a great deal of extravagance in the conduct of the State government of Massachusetts; and he succeeded in inducing a large number of newspapers to subscribe to that opinion. And the legislature of 1879 went up to the State House fully imbued with the idea that they must cut down some salaries, and abolish others if possible. That jumble of conflicting — or of diverse, if not conflicting — interests known as the Board of Health, Lunacy, and Charity, was a sacrifice upon that altar. It was in pursuance of a policy of economy, not a policy of wisdom, that that Board was created. I do not intend to criticise the gentlemen of the legislature who were concerned in its creation. They doubtless honestly believed that they were doing what must be done under the circumstances. But I do not believe that you, gentlemen, or the people of Massachusetts, have ever approved that act. If I may travesty Lincoln's illustrious address, it might be said that that Board of 1879 was created "with lunacy toward all, and with charity for none."

The results achieved were just about what you might suppose they would be under the circumstances. Gentlemen of diverse pursuits, of entirely different training, some of them not in the least adapted to handle, and not professing to be able to handle, some of the subjects which were committed to their charge, were tumbled together into that Board, to look after the health, lunacy, and charity of Massachusetts; and the mixture, so far as I have been able to learn, was not a fortunate one. Some interest, or interests, out of these three had necessarily to go to the wall; and you probably know which one finally did go to the

wall. The canon which governed that Board seems to have been: "Now abideth health, lunacy and charity, and the greatest of these, by a large majority, is charity." I am told that one of the results of the war of 1879 was that the interests of the Health Department were, and had to be, subordinated to the interests of the department of charities. It remained for the Legislature of 1886, which can do no wrong, to set that right; and that we have done it, I trust you agree. We have divorced that unnatural union of health, lunacy and charity, and established what I trust will prove in fact, as well as in name, a State Board of Health. The selections which his Excellency, the Governor, has made to fill the positions so created, have been made with his usual good judgment. And it gives me particular pleasure, as it does you also, I have no doubt, who are associated with him in this Society, to see that accomplished and faithful servant restored to that service at the head of the new Board. And I take particular pleasure in saying this to you, members of the Massachusetts Medical Society, because I once, as a member of the Legislature, had occasion to criticise some of that gentleman's official acts which seemed to me indiscreet; and I am glad to say here, that, notwithstanding some trivial mistakes, from which human frailty is never exempt, I believe the universal judgment of the people of the Commonwealth, at least of those having any familiarity with the subject, approves the restoration of that gentleman to the head of the State Board of Health.

The Board is armed with great powers, but none too great. And I am sure that when we look over the constitution of it, we shall agree that such a Board may be safely trusted with such powers, however extensive. You have there not only the highest professional skill and training, but the ripest wisdom from the ranks of the lay citizens of the State; and you have introduced into the lump even the homœopathic leaven. I observe, Mr. Chairman, that this is received in chilling silence. Whether it will leaven the whole lump; whether it will work as our Dr. Holmes says jalap works, "not wisely, but too well"; or whether it will work, as most of you probably have been accustomed to regard it, "neither well nor wisely," remains to be seen. We will hope for the best.

The interests committed to the hands of the new Board of Health are of the most complex and important character. In these times, the office of a Board of Health is no sinecure. The great accretions of population in our cities and towns, the new movements of population which are contantly going on in Massachusetts, the changes incidental to modern habits and methods of life, especially in thickly-populated communities, are presenting every day, for the consideration of that Board, questions of the most important and delicate character. That they will deal with them wisely and well, I have no doubt; nor have I any doubt that it will be the pleasure of the members of the Massachusetts Medical Society, as of all other good citizens of the Commonwealth, to uphold and strengthen the hands of the new Board in the discharge of its duties.

The REV. M. J. SAVAGE was then called upon to respond for the clergy, and spoke in substance as follows:

MR. CHAIRMAN AND GENTLEMEN, — I find no fault with those who are obliged to leave the hall; I would go too if I could, since I am in no condition to speak. It is far easier for men to say sharp things about the medical and clerical professions than to do without them. It has become a habit to have a sly dig at the doctor, the minister, and the lawyer, perhaps because men like to have their revenge on those who deal with their frailties and faults. I was looking over a book this morning, more or less familiar to me, though I don't know how familiar it is to the members of the Massachusetts Medical Society (I refer to the Old Testament), in which it is related how in his trouble Asa sought not to the Lord but to his physicians, and the next verse states that "Asa slept with his fathers." This may, however, have been written by a priest who had been actuated by professional jealousy. I recall another venerable joke (all our newspaper jokes are as old as Greece and Rome, and are resurrected for New York and Chicago) about a doctor who came home empty-handed from hunting. "I have been gone all day and killed nothing," he said to his wife. "You might have stayed at home and attended to business," said she.

They have their thrust at the minister, too. In the Garden of Eden the Lord cast Adam into a deep sleep, and it is said that that part of the Lord's business has been delegated to clergymen ever since. You remember, too, the old lady who had not slept for three nights, and then begged her pastor to relieve her by coming up and reading one of his nice old sermons. Yet it is easier to make fun of us than to do without us. It is the doctor who first welcomes us when, as George Macdonald says, "we come out of the everywhere into the here;" to whom we are introduced before we are to our mothers; who guards us through infancy, youth, middle life, and old age; to whom we go when we drink other people's healths to the ruin of our own. And at the last it is always a blessed consolation to have the presence of the kindly, patient, experienced man smoothing the pathway to sleep. And it is there that the doctor and the minister meet. "Is papa the doctor for dead folks?" my little girl asked the other day, with a mingling of wisdom and humor and pathos. The minister is wanted at the christening, the wedding, and the funeral, at least. I wonder sometimes at the extent of my parish when I am called to attend the dying, though to all such the minister willingly goes. For myself, however, I say that if I could do without the minister all my life, I'd finish up without him too.

There are certain parallels between the two professions. The doctor and minister both live on the faults and sins of society. If all of us were wise and self-controlled, your business would be largely reduced; and if all of us tried to do well, to live religion, there would be small need for the minister. And it should be the business of both of us to make ourselves useless by the instruction and uplifting of the world. But there need be no fear, so far as you and I are concerned, of any sudden coming of the millennium. There are strikes, boycotts, depressions, but the work of making fools of ourselves, in body and soul, goes steadily on. You and I, however, ought to enable the next generation to get along with fewer doctors and ministers. Again, both of us are apt to get in love with our sects, systems, methods. There are sects in the church, and are said to be in the medical profession. Each of us is apt to regard our way as infallible, and to prefer it rather than the healing and saving of men. Let us rather subordinate methods to health and good-

ness. Again, most people do not want to be taught the laws of health or how to behave. We want a doctor to let us live as we please, and give us immunity from the consequences. And we all want to be saved, too, after the fashion of the colored brother at the revival meeting: "What we want here, massa, is religion. To allude to chickens or the Ten Commandments would throw a coldness over the whole meeting." And, also, the doctor who throws the greatest mystery around his work will have the largest clientage of people who don't think. And so will the same sort of ministers have among such people the largest following. And here is the field for the mind cure. I suppose there is nothing about this that has not been always known. "What is new in it is not true, and what is true is not new." No doubt there have been good results, but the process is old and simple, and I am amazed that sensible people should give it their countenance, when we are told that there are no bodies and no such thing as pain. It reminds me of what Byron said of Berkeley —

> "When Bishop Berkeley says there is no matter,
> It is no matter what he says."

But the medical and clerical professions have the grandest work the world has ever seen — to diminish the sum of grief and pain, and to increase that of joy and hope. I always wish I was a doctor when I stand by the bedside of pain. There is no nobler thing than to be the welcomed confidential guest of a household, to earn the deep gratitude of troubled parents. So I, when I have helped some one to live by kindling hope, feel that I am repaid for years of toil. There should be a hearty coöperation between every doctor and every sensible minister in the world. We need to unite our work, for, if both the body and the soul are healthy, then we are ready to go out of the world hand in hand together.

DR. GEORGE W. GAY was then called for, and read the following poem, written for the occasion by the wife of one of the distinguished members of the profession in Boston, Dr. John G. Blake, and which was greeted with applause.

In that time of the year when the world is in tune
With the breath of the rose and the music of June,
Comes a day of delight, may its mem'ry be blest,
When the Medical Man gets his chance with the rest.

Then the drudge who must toil out of reason and rhyme,
Who must always be ready for calls upon time,
Who must keep himself smiling and wholesome and gay
Through the twenty-six hours of each calendar day,
Who must sleep like a cyclops, with one eye awake
Lest some amiable fiend should imagine an ache,
Who is wedded to science but widowed of pelf,—
Gets a single day off, to take care of himself.

Then wild grows the tumult of laughter and noise,
As if men's pulses throbbed with the hot blood of boys;
Then names long forgotten come back with a shout,
From the hearts of old comrades rung cheerily out;
And the swift wheel of wit turns its scintillant spokes
In postprandial speech and professional jokes;
All chestnuts? well, that leaves no cause to repine;
When shall we have chestnuts if not when we dine?

Who envies their glee? Not the poor they have nursed
When the hand of disease marked its plague-spot accursed;
Not the rich they have guided to havens of health
Through the shoals and the rocks and the quicksands of wealth;
Not the maid they have snatched from the pale grasp of death,
Nor the child they have fostered with life-giving breath,
Nor the soldier who fights in humanity's field,
Whose soul they have strengthened, whose wounds they have healed!

Take the sense of the meeting; look round as you sit,
At the shrewd kindly faces all wisdom and wit,
See the straightforward eyes with their glance strong and tense,
And that polish that learning rubs deep into sense.
How changed, since the days when a knave or a flat,
In a full-bottomed wig and a three-cornered hat,
With a cane in his hand and bold brass in his cheek
Could impose on the world seven days in a week.

How changed, since the sole light of wisdom and skill
Was a pale ignis-fatuus shining at will
Over quagmire, and stubble, and pitfall of wrath;
And sometimes — by chance — on a safe, honest path;
Since simples were culled by the light of the stars,
And prescriptions were mixed up with Venus and Mars,
'Til one scarcely knows whether to frown or to laugh
At one portion of reason to nine parts of chaff;

And yet how unchanged, — save in vantages won,
Where the regular army fights valiantly on
Against Malice and Error, who stand hand and glove
To strike back at conscience and wisdom and love;
Save in effort that recked not of praise or of blame,
That grasped not at fortune, that cared not for fame,
'Til it wrested life's secrets from rock and from sod,
And the Healer of man was made High Priest of God!

Alas how unchanged! with the skirmishing host
Who make ignorance fashion, and folly a boast:
Look at Mind Cure at work without physic or steel
And healing with nothing, the nothing to heal;
Look at Scientists dubbed as the "Christian" to-day,
Who can aim at a fever ten good leagues away,
And bid it avaunt at their voiceless commands
By a new imposition, not even of hands!

Look at Hahnemann feeding his sugar-plums sweet
To a world that insists it has outgrown deceit,
Yet believes in the paradox, startling if true,
That the weaker a force is, the more it can do;
And accepts a teaspoonful of tonic or salts
In which one drop has flavored twelve millions of quarts!
How such gullible nonsense the old fooling mocks
That gave horseshoes for gout, and red paint for small-pox!

Eclectics, Electrics, Clairvoyants, and Quacks,
Patent-medicine venders with nostrums in packs,
Herb-doctors, Bone-setters, and Naturopaths,
Cures by fruit and by fancies, by mud and by baths,
Men of Magnets and Mesmer, each vaunting his skill,—
What a long list of evil to add to earth's ill!
Well, better the strife than the stiffness of rust;
And the car-wheels of progress must still create dust.

. . . . . .

True shepherds that watch at the gates of the fold,
Call the wanderers in from the dark and the cold!
Bid them enter at will through the wide open door,
Set the clear light of reason their dim sight before,
Give them logic for nonsense, and honor for lies,
Let them see naked truth without shame or disguise,
Who knows but the soul from its bondage may start
And the training of hand prove a training of heart?

Now a last word in wishes: may health and good cheer
Be your maxim of life every day of the year;
May the honor of toil make its hardship amends,
And your firesides be rich in wife, children and friends;
May each patient who lives send a check for his bill
And the odd one who dies write your name in his will;
And the God of the Doctor grant this little boon,—
One other day off for a dinner next June.

DR. E. M. HARTWELL, Associate in Physical Culture at Johns Hopkins University, was then called upon, and spoke substantially as follows:

MR. CHAIRMAN AND GENTLEMEN, — I need not say that I feel highly honored by a seat at your table and the opportunity to speak of the interest I represent — that of personal hygiene for students. I bespeak for it your attention and interest, knowing that you have shown great and efficient interest in educational institutions. I believe the time is near at hand to bring about sounder methods of education. The earliest interest exhibited in Massachusetts was in 1647, when the apostle Eliot wrote to Parson Shepard at Cambridge, urging the founding of a school in which "anatomies and things that way" should be taught to the Indians. It is desirable that the educators of educated people should be taught what the laws of the

Lord of life are; to know the advantages of the cultivation of physical hygiene in the education of youth. Ignorance of the laws of health is one reason for the lack of it in students. The head of the department of philology in one of our universities thought he was accounting for an attack of vertigo by saying that he supposed "the fumes of the gall came up from his liver to his head, and stunned him." Another eminent educator saw no objection to putting the whole charge of the gymnasium upon one of the firemen. Now when able men take hold of the matter, they are still met with opposition; and this condition cannot be bettered until our courses of instruction are overhauled, disinfected and reformed. And to whom should we look for intelligent aid but to medical societies and medical schools?

There has already been a great revival in the departments of hygiene in our medical colleges, but there is room for still greater improvement. In 1781, when Dr. John Warren began his lectures to medical students, and in 1784, when the Harvard Medical School was founded at Cambridge, the rest of the university students were admitted to the exercises. When it was removed to Boston in 1810, there was still a course of lectures to undergraduates and to resident graduates, given by James Jackson and John C. Warren; and to them is due the establishment of the Tremont Gymnasiasm, the first in Boston. They tried to get the father of the German *turning* to come over as superintendent. Hygienic education was carried on elsewhere, too, notably at Round Hill School at Northampton. I am indebted to Dr. George C. Shattuck, then a boy there, for an account of the work at that time. By the good obtained there, a Round Hill boy who established St. Paul's School at Concord, N. H., was influenced to make the inculcation of hygienic rules a condition of the deed of gift, and the result is that the St. Paul boys are famous for athletic acquirements. Already $500,000 has been expended by colleges in the construction of gymnasiums, but there is still much work to be done. There is need of proper instruction of the teachers themselves. Let us have the experiment tried farther yet, and let us have the influence of the medical profession. The boys who come to our colleges have to be taught the A B C of physical education, and they should have learned it long before.

This concluded the speech-making, and about four o'clock the Fellows dispersed.

THE CONNECTICUT MEDICAL SOCIETY.

NINETY-SIXTH ANNUAL MEETING, MAY 26 AND 27.

THIS Society, as most of your readers know, holds its meetings alternately at New Haven and Hartford. Formerly the meetings were held at other places throughout the State, and two years ago an attempt was made to revive the ancient custom, in part at least, by proposing that the Society should meet every *third* year at Bridgeport, a thriving and energetic city of some 30,000 population, and the headquarters of the Fairfield County Medical Society, one of the most active of the local organizations, numbering about seventy-five members. It was thought, however, that, in a State so small as Connecticut and so thoroughly interpenetrated by railroads, there was no necessity for multiplying meeting places on the score of inconvenience by reason of distance, and the proposition was laid aside without causing the disaffection among the Fairfield County members that was predicted by some croakers during the discussion.

This year the Society met at New Haven in the Common Council Chamber of the City Hall, which was generously placed at their disposal by the authorities. It is a large, well-lighted and well-ventilated room, almost too large, as the extra space at the rear was injudiciously allowed to be occupied by some of the peripatitic, pharmaceutical hangers-on of Medical Conventions, whose presence was certainly far from desirable when upon the second day, some of them began the vending of some beverages in the room when the reading of the scientific papers was in progress. They were summarily stopped, but the disturbance had already taken place, and caused a jar in the proceedings.

The first day's proceedings are entirely of a business order, and are in fact exactly what go on in the Councillors' meetings of the Massachusetts Medical Society with the difference that with us, members who are not councillors (we call Councillors Fellows) are invited to be present, to take part in discussions, offer resolutions, and in short, do everything but vote. The President makes an address to the "Fellows," usually very brief, calling their attention to needful legislation, and making such recommendations as he sees fit.

The interest of the "Fellows" meeting centered about the report of a special committee appointed at the last annual meeting to obtain an expression of opinion from every member of the Society upon the question of changing the organization of the Society.

It is an admitted fact that the interest of the profession of the State in the proceedings of the State Society is not what it ought to be, and various reasons have been assigned for this. In the first place we are unfortunate in not having some metropolitan city whose attractions, medical and otherwise, might supplement those of the Society's proceeding in drawing the members out of their daily ruts. In the second place we are, in one sense, unfortunate in being placed between Boston and New York, for it is very handy for our country members to slip off to one or other place, and thus use up all the time they feel that they can spare away from their daily duties. It is true that both these conditions have existed from the time of the Society's foundation, and yet as regards the second, there is now a radical difference in one respect, namely, the multiplication of railroads and better passenger service have made it vastly easier for the country practitioner to go to Boston or New York, and the establishment of Post-Graduate Schools has led many to do so, and the State Medical Society has been the victim thereof.

Two or three members of the Society, however, seem to have been impressed with the conviction that the trouble was with the *organization* of the Society. There were usually present at the business meeting, several members who, not being among the business delegates for the year could not *vote*, and these members were supposed to be in a state of suppressed indignation at this curtailment of the privileges of free and independent citizens in much the same way as they might be supposed to be righteously indignant at not being allowed to vote on a question before the Legislature of the State, when their towns had invidi-

ously selected some one else to represent them for that year.

In a lengthy article upon this question read before the New Haven County Society a year ago, and printed in the proceedings of the State Society for last year, the author charges that the organization of the Society causes "rings" and "cliques," and insinuates that these agencies control the election of "Fellows" and have often controlled the election of officers. The solitary fact which he adduces in support of this startling charge is that from 1801 till 1856, no New Haven County man was chosen President. By his own figures it would seem that the abuse of which he complains ceased thirty years ago without any change in the organization of the Society.

The sovereign remedy for this deplorable condition, according to this author, lies in the adoption of the proposed New Charter, which your readers may remember was fully discussed last year after having been made the subject of a special meeting some months before and referred to the County Medical Societies. The only change of importance in the New Charter lies in the clause by which every member of the Society becomes a "Fellow," or in Massachusetts parlance, every "Fellow" becomes a Councillor. Representation of Delegates from County Societies is thus done away with, and the whole Society does the work which our Fellows have done, and which your Councillors do. Last year the opposition was very pronounced, and there being no chance for a favorable vote upon it, its sponsors succeeded in getting action postponed till this year, and a special committee of three appointed "to obtain an expression of opinion upon the subject from every member." This committee sent a circular to every member, asking for an answer to certain questions, the main one being whether the signer desired that every member should become a Fellow, thus to change the form of organization.

The Report of this Committee was read by the Chairman, Dr. White, to the effect that three hundred and twenty-three replies were received, of which two hundred and fifty-eight were in the affirmative and sixty-five in the negative, and recommending that in view of this overwhelming preponderance in favor of the measure it be "Resolved that a committee be appointed to present the subject to the Legislature and secure necessary action." One of the Committee disowned any responsibility for this resolution, not believing that the figures given represented the true opinion of the signers.

Dr. Carmalt followed with an argument showing that the Committee which was appointed to obtain an expression of opinion only, had sent out a circular of which a large part was an *argument* for the New Charter containing copious references to the article referred to, published in last year's Proceedings, and closing by requesting an affimative or negative answer with the word "affirmative" in italics, by which special direction was given to the method in which it was desired that the answer be given. The most powerful part of Dr. Carmalt's speech was the setting forth the fact that the circular was not only argumentative, but absolutely conveyed misinformation in stating that all the other New England State Medical Societies made every member of the Society on an equality with every other one, all participating directly in the election of officers and transaction of business. This, Dr. Carmalt showed by extracts from the official documents, By-Laws, etc., was not the case in the Massachusetts Medical Society, any more than in our own, and the statements to the contrary both direct and by implication scattered through the article to which the circular made reference, as well as in the circular itself, were therefore misleading, not to call it by any harsher name.

It was difficult to conceive how a man writing with the documents before him, could be so misled as the author of the article has been, in assuming that, because the term "Fellow" in Connecticut, meant a member of the governing body, it must mean the same in Massachusetts, and that when in 1803, the Massachusetts Medical Society made every member a Fellow it meant that a governing body was dispensed with, thus ignoring entirely the fact that the transaction of all ordinary routine business, the admission of new members, dismissal of members, election of officers, appointment of committees, etc., was all done in Massachusetts exactly as they are done with us, by a delegate body elected by local societies.

Dr. Carmalt also instanced the case of the Michigan Medical Society, organized some twenty years ago on the mass-meeting principle, but which appears to have become dissatisfied with its workings, for year before last a Committee on Reorganization was appointed, whose report Dr. Carmalt quotes, to the effect that too much time was consumed in non-professional matters and too much attention given to purposes and schemes other than scientific (apparently there has been "log-rolling" or machinations of cliques, though they have not been afflicted with a governing body). This Committee recommend reorganization on the basis of three classes of members. 1st, Delegate members to be chosen by the local societies in the State, the right to *vote*, and consequently the government of the Society to be vested *exclusively* in them. 2d, Elective members. 3d, Permanent members. The latter two classes to have all rights and privileges of delegate members except the right to vote. If the Michigan Committee had copied our Charter and By-Laws, it would not have differed in any essential particular from the one they recommended, action on which was postponed till next year.

The discussion was maintained in a lively fashion, crowding the usual business of the session into a few hurried minutes at the close of the afternoon. The advocates of the New Charter expended their efforts in emphasizing the fact that two hundred and fifty-one signed votes had been obtained by the Committee in its favor and as this was a majority of the members, the membership reported last year being four hundred and ninety-five, the minority ought to yield. No serious attempt was made to answer Dr. Carmalt's charges that the vote was obtained by an electioneering circular containing misinformation, which, if true, would deprive the vote of all significance. An attempt to postpone action for another year was promptly voted down, the Society evidently thinking that it was time the question was settled definitely, and a yea and nay vote on the question resulted in twenty-five votes for the present organization, against eight for the proposed New Charter.

It is earnestly hoped that this project will not appear, like Banquo's ghost, to disturb the Society again and draw off our energies from the true work of the organization.

The whole discussion was very flattering to the Massachusetts Medical Society. Both sides brought that Society forward as a model, an illustration of what a Medical Society might do, and admitted the truth of Dr. Warren's encomiums upon its form of organization in his centennial address. It does seem absurd that with the Constitutions and By-Laws of both Societies before them, a body of scientific educated men could so long discuss a question that ought to have been settled in half an hour.

The conviction is growing upon many of our members that the real cause of the indifference to the scientific papers lies in the comparatively short session, one session, of five hours at most, is all that we now have. One, and sometimes two hours, are consumed by the Secretary's Report, President's Address, Reception of Delegates and Reports of delegates. Thus it happens sometimes that even essayists appointed to read papers have been prevented from reading, to say nothing of others with voluntary communications.

We ought to have another session, and if the time of the Fellows' Meeting had not been so much occupied with the settlement of the Charter question, an amendment would have been offered to that effect, and could have been acted on next year. The present custom is to have a social reception at some member's house on Wednesday night, between the Fellows' Meeting and the Mass Meeting. This, many think, should be done away with, and the time utilized in a session. Others think the dinner should come in the evening, and be preceded by a short scientific session to be continued the next day.

THE MASS MEETING

was held on Thursday, at the same place. The Secretary's Report showed an accession of 34 new members; 10 removals, and 9 deaths, leaving a total membership of 510.

Among the deaths was the name of a former President, Ashbel Woodward, a man of wide repute and a practising physician for upwards of fifty years. He died at the ripe old age of eighty-one, and his vigor is shown by the fact that when nearly sixty he went to the war as surgeon of the 26th Connecticut. For the first time in very many years the Society loses a Vice-President (Samuel Hutchins) by death, during his term of office. By the established custom he would have been its next President, and out of courtesy the President for the next year was elected from the same county. The President read his Annual Address to the Society, taking as a theme,

A STUDY OF DIABETES MELLITUS.

It was certainly an exhaustive *résumé* of the history of the disease from the time of Galen to the present and evidenced an immense amount of reading upon the subject. To the history was added a synopsis of the pathology of the disorder so far as it is known. In the matter of treatment nothing positively new was offered, except the exclusion from the dietary of oysters, which are usually allowed. Although not a hereditary disease, yet he thought the possible transmitted tendency to it strong enough to render necessary extra care in restraining brain work in the children of a diabetic parent. The *skim*-milk had no advantage over ordinary milk with modern methods of preparation (peptonizing, etc.) Special stress was laid upon fresh air *at night*, and the use of Bethesda mineral water was highly recommended, in relieving dryness of tongue. Cataract occurring as a complication should be operated on early. The alkaline bisulphites and sulpho-carbolate of soda had served the author well. He believed the disease to be on the increase, and to affect the most valuable members of the community as its victims.

Drs. Browning and Palmer, delegates from the Rhode Island Society, and Dr. Hubbard, from the New York Medical Association, were introduced to the Society and made short addresses.

DR. BECKWITH, of New Haven, read a Dissertation on

THE TREATMENT OF LACERATIONS OF THE CERVIX UTERI.

Laceration of the cervix, he believed not to be the invariable rule in multiparæ, as is stated in so many text-books, and he gave nineteen cases in which he had made careful examination and found no laceration, some of the women having borne eight or nine children. The time for examination was at the end of two months. Until recently lacerations had passed for ulcerations. He made three classes: those complicated with eversion and granular erosion; those with no decided eversion or erosion; but there is nervous exhaustion and spinal irritation, anæmia, and sterility. Third, those having no symptoms, except sterility, for which the patient applies to the physician. For the first class he recommends astringents, rest, vaginal douches, and repeated puncture of degenerated follicles, and surgically in proper cases, tracheloraphy. For the second class he does not advise operation, as Emmett does, but rather Weir Mitchell's treatment for nervous exhaustion. In the third class he considers tracheloraphy justifiable if sterility is a source of unhappiness, though he does not consider that it holds out much hope of relief. The paper was supplemented by brief histories of twenty-six cases.

DR. WRIGHT read an interesting paper on

THE MICROSCOPE IN ITS RELATION TO DISEASE,

being in the main a *résumé* of the discoveries of Koch and his followers in the domain of bacteriology. Though admitting that as yet the German theorists had not evolved any very practical points, he thought they had proved that the bacteria were often the cause of disease, and that it was a "great step in advance to have found our enemies, though we have not yet overcome them."

DR. STANTON'S essay, entitled:

"O TEMPORA, O MORES!"

was a protest against the indifference displayed towards the unprincipled quacks with whom the country is flooded, and called forth considerable discussion, which ended by appointing a committee to confer with a committee from the other two chartered medical organizations of the State (Homœopaths and Eclectics) to see what legislation can be had which will result in preventing unlicensed and ignorant men from practising.

DR. WRIGHT'S paper on

MORBUS BRIGHTII,

was not a study of the disease itself, but of its influences on other diseases, especially pneumonia and heart disease.

DR. GILBERT'S paper on

PNEUMONIA,

stated that six per cent. of the deaths in Connecticut during 1884 were due to this disease. He advocated bleeding in sthenic cases, moderate rather than large doses of quinine, and above all, fresh air. No allusion was made in this paper to the modern theory of pneumonia as a "germ disease."

Dr. White showed a plaster cast of the brain of an epileptic, showing a marked depression of the skull. The Society then adjourned and the members sat down to a collation at the New Haven House.

THE AMERICAN LARYNGOLOGICAL ASSOCIATION.[1]

THIRD DAY. — AFTERNOON SESSION.

THE LARYNGEAL IMAGE AS SEEN IN PHOTOGRAPHS TAKEN DURING THE PRODUCTION OF TONES IN THE SINGING VOICE,

by Dr. Thomas R. French, of Brooklyn.

The speaker had made numerous investigations on this subject, and his observations failed to confirm the statements of most authorities in regard to the position of the vocal cords during the production of different notes. Different individuals evidently use different mechanisms in the production of different tones. The general result of his investigations seemed to indicate that in the production of low notes the vocal cords are separated to a greater extent posteriorly than anteriorly; in the production of the middle tones, the vocal cords are parallel and in the production of high notes the opening is widest in front.

The paper was illustrated by numerous photographs thrown upon the screen.

The following papers were then read by title.

CLINICAL NOTES ON PROLAPSE OF THE LARYNGEAL VENTRICLES,

by Dr. George W. Major, of Montreal.

THREE CASES OF THYROTOMY, RECOVERY IN EACH CASE WITH GOOD VOICE,

by Dr. Clinton Wagner, of New York.

ALARMING HÆMORRHAGE AFTER TONSILLAR EXCISION, ARRESTED BY TORSION OF THE ARTERY,

by the same author.

A NOVEL PROCEDURE FOR THE REMOVAL OF SUBGLOTTIC LARYNGEAL GROWTHS,

by Dr. William C. Jarvis, of New York.

J. C., aged thirty-five years, consulted me on March 22, 1882, for the relief of a difficulty of speech and of breathing. The trouble with the voice was noticed two years before, the difficulty in speech appeared one year before coming under observation. The laryngoscope showed a mass of papillomatous tissue occupying the cavity of the larynx. The vocal cords and ventricular bands were not involved, the attempt was made to seize them during phonation, with the Mackenzie forceps. Only a few pieces were removed. The ecraseur was then tried, but it was found impossible to use this instrument on account of the wire being seized by the spasmodic contraction of the vocal bands and displaced. Chromic-acid applications were then tried, but although the growth was touched, it was found impossible to limit the application to the diseased structures. The patient then disappeared and did not return for a year. His condition was then much worse and the difficulty of breathing greatly increased.

I then determined to try the following plan, and if this failed, to remove the growth through an opening in the wind-pipe. Forceps similar to the Mackenzie instrument, but heavier, was secured. Through the tips of the blades, holes were drilled and through these was passed a piece of No. 00 piano wire which was conducted through a second opening at the angle of the blades and out to the handles where it terminated in a loop into which the extremity of the index finger could be placed. When the blades were separated this wire formed a cross-bar uniting their extremities. When the blades were closed, the loop of wire could be drawn up by the finger. The operation was performed without an anæsthetic. The tongue was depressed and with the aid of the mirror the forceps were introduced into the cavity of the larynx. The mirror was then removed and the forceps carried down to the glottis, through which the tip of the instrument was forced with considerable trouble on account of the spasm. The instrument was carried into the trachea sufficiently far to be sure that it was below the attachment of the growth. The blades were then separated and pressing against the anterior wall of the larynx, the instrument was gradually raised until the wire was caught. The blades were then closed and clamped, the loop of wire drawn in and the forceps removed, bringing with it a growth. The laryngoscope showed a second growth which was removed in the same way. Breathing was at once rendered easy and the speech became natural. The patient said that the presence of the forceps caused no pain, although uncomfortable. This is the only case on record of the removal of a sub-glottic tumor without anæsthetization and without an opening into the larynx.

CASES OF LARYNGEAL ŒDEMA,

by T. Amory de Blois, M.D., of Boston.

The author had been led to write the paper by reading of several fatal cases of this affection reported during the past few months. He gave brief details of fourteen cases of laryngeal œdema coming under his observation. All of these cases recovered, six under the use of astringents, eight after scarification.

DISCUSSION.

Dr. Frank Donaldson, of Baltimore. I would suggest that in these cases intubation of the larynx, after the O'Dwyer method might be applicable.

Dr. E. Carroll Morgan, of Washington. My experience with this condition has been limited, and the cases have been mild. I have usually employed active purgation with vesiculation over the larynx and various local measures.

Dr. W. C. Jarvis, of New York. I should like to say a word with reference to the constitutional treatment of œdema of the larynx. Some time ago I used in a case of marked œdema, the fluid extract of jaborandi. In forty-eight hours the œdema had greatly diminished. I have since seen reported several cases in which pilocarpin was used with advantage.

[1] Concluded from page 546.

I have never seen good results from scarification. In a case of attempted suicide followed by œdema of the larynx, a tube was introduced and in this case, although plenty of time could be taken, no benefit followed scarification. It seemed as though the fluid were contained in numerous small sacs. The opening of a few of these did no good.

A paper by DR. CHARLES H. KNIGHT, of New York, describing

A CASE OF PERICHONDRITIS OF THE LARYNX,

was read by title.

A CASE OF GUMMATOUS DISEASE OF THE LARYNX WITH SPONTANEOUS REOPENING OF THE LARYNX AFTER THYROID LARYNGOTOMY,

by DR. EDGAR HOLDEN, M.D., of Newark.

L. D., aged thirty-five, presented himself May 20, 1885, with dyspnœa and aphonia. Examination showed a cicatrix on the epiglottis, and the left side of the larynx presented a rounded mass of dull appearance. He denied syphilitic infection. After a careful consideration of the case, the probabilities were thought to favor syphilis, and he was given iodide of potassium in large doses. There was improvement for a short time, but he soon became intolerant to the drug. Thyroid laryngotomy was considered necessary and was performed. The tumor was removed with the ecraseur, no ulceration was visible. Tracheotomy was then performed and the upper incision closed with sutures. The patient did well and the tube was removed on the tenth day. The external wound healed. He insisted on returning to his home, where the surroundings were very unfavorable, and his health deteriorated. On the fortieth day after the healing of the wound, the laryngeal incision was torn open by a severe cough. He refused to return to the hospital. Examination of the larynx showed no disease. Under the surroundings it was impossible to get the wound to heal. His health continued to run down, and six months and fourteen days after the operation, the patient died of exhaustion. The patient had lived five months with an opening in the larynx.

DR. U. G. HITCHCOCK, of New York, read a paper on

GUMMATOUS INFILTRATION OF THE BASE OF THE TONGUE,

giving the details of four cases coming under his observation. In none of these cases was the fibrous septum the exclusive seat of the disease, and in three cases, the deposit did not approach this structure. In these cases the degree of dysphagia was in direct proportion to the proximity of the deposit to the base of the tongue.

Adjourned.

SATURDAY. — THIRD DAY. — MORNING SESSION.

A paper on

A CASE OF HYSTERICAL SNEEZING, APPARENTLY CURED BY APPLICATION TO THE NASAL PASSAGES OF THE CONTINUOUS BATTERY CURRENT,

by Dr. S. SOLIS COHEN, of Philadelphia, was read by title.

A CONTRIBUTION TO THE PATHOLOGY AND TREATMENT OF THE RESPIRATORY VASO-MOTOR NEUROSES,

by JOHN N. MACKENZIE, of Baltimore.

The naso-bronchial tract is frequently the seat of periodical vascular disturbance, in which explosions of nerve force play a conspicuous part. These probably depend upon some form of sympathetic or vaso-motor irritation. In the production of such conditions, two elements enter, a depraved state of the nerve centres, and an abnormal excitability of certain portions of the naso-bronchial tract. In regard to the hyperæsthetic condition of the nasal mucous membrane, the hyperæsthesia characteristic of the paroxysm is like the vaso-motor phenomena which accompany it, purely secondary, and occurs as a result of central irritation or paresis. This may pass away with the subsidence of the other symptoms, or be more or less constant, but in either case, there are certain areas in which the hyperæsthesia is more pronounced. The lower, posterior parts are the portions of the tracts usually affected. In hay fever, we are dealing with a neurosis. In this connection, he called attention to a neurosis of the aural cavity, which was closely allied to vaso-motor coryza, and also to a similar condition of the conjunctiva. These cases are a further evidence of the sympathetic nature of these affections. With reference to asthma in connection with nasal disease, it was stated that the ancients had frequently noted the expulsion of mucus from the nostril accompanying or following an attack of asthma. The older writers were evidently familiar with hay fever, but they confounded it with the bronchial asthma of the present day. Asthma is looked upon as a disease *per se*, but like many other disturbances of respiration, it has no particular lesion and is common to many pathological states. It, like cough, is most commonly symptomatic of some disorder of the respiratory tract. An interesting feature in a certain proportion of cases, is the association of urticaria with coryza. This is a familiar observation. The speaker then considered the relations between the skin and the respiratory tract. He regarded the skin as having a function similar to that of the lungs, and on the principles which he explained, he based the treatment of hay fever or periodical vaso-motor neurosis of the respiratory tract. From sixty to eighty cases had been treated after this plan. In the greater number of cases, the nasal passages were the seat of the vascular disturbance. Next in frequency, came the larynx; occasionally, it was localized in the laryngeal cavity. In whatever portion the vaso-motor neurosis is situated, the general principles are the same. The treatment of one of these affections is essentially the treatment of the others. Hay fever and asthma may be classed as symptoms, owing their origin to the same cause.

In the treatment of hay fever, the chief indications are to remove any existing local respiratory disease, to so alter the nutrition of the nerve centres that they may not respond so easily to irritation, and to carefully search for pathological conditions, and adopt appropriate treatment for their removal when found.

These chronic neuroses require chronic treatment. The peculiarity of the sympathetic is with the patient all the time, by night and by day, and at any moment, may give evidence of its presence by a paroxysm. Any treatment which is practised simply during the attack, or immediately before, is simply palliative. In reference to the use of cocaine, he had found that it increased the irritability of these structures, and its application to the erectile tissue may ultimately weaken the cell walls. He, however, did not question the ex-

cellent virtues of this remedy in certain acute affections. In hay fever, he had failed to find improvement after its use. For a short time, amelioration was produced, but in the course of an hour the symptoms recurred. His custom is to treat hay fever as any other chronic disease of the nervous system. He insisted upon a prolonged tonic course of treatment during the intervals. This may, at first, fail, but if persisted in, the time will come, when, if there is no incurable lesion, the paroxysms will diminish in severity and frequency. The great mistake is made in the suspension of the treatment upon the termination of the attack. Among the remedies for the constitutional management of this class of cases, he recommended phosphide of zinc, quinine, and nux vomica. These may be given in combination in the following proportions:

℞

Zinci Phosphidi	gr. 1-16
Quininæ Sulphat.	gr. ij
Ex Nucis Vomicæ	gr. 1-4

M. et ft. Pil No. 1.
Sig. To be taken before meals.

After meals, he directs that from three to five drops of liquor arsenici et hydrargeri iodidi be taken in a wine-glassful of water. A similar line of treatment had been employed for several years by the speaker in simple inflammatory conditions of the nose and throat with good results. He had also employed bromide of potassium with advantage. A constant current of from ten to fifteen cells, with one pole over the nape of the neck, and the other over the region of the superior cervical ganglia or in the nasal passages, had, in a few cases, been beneficial. In one case, improvement followed the obliteration of vessels on the posterior wall of the pharynx.

In regard to topical applications to the existing nasal conditions, these accomplish one result only: they close one door to irritation of the nerve centres. In many cases, this is of itself sufficient; there are other cases in which such a course will fail. In these neuroses, we cannot expect to thoroughly eradicate the disease until the sympathetic nerve irritation is overcome.

DISCUSSION.

Dr. William H. Daly, of Pittsburg. I have had considerable experience in the therapeutics of this condition. The iodide of sodium has given me better results than any other single remedy. I give it in small doses, long continued. I administer it in hot water on an empty stomach. I want also to insist that all cases of this kind be subjected to a thorough inspection. The upper air-passages should be carefully examined, and upon the slightest suspicion of local disease, the condition should be remedied. If this be done, I believe that the disappointments will be few. The constitutional treatment should, I think, be secondary, and the local treatment should occupy the first place.

Dr. E. Carroll Morgan, of Washington. The galvano-cautery has been highly recommended as a successful remedy for hay fever, but my experience with it has not been so satisfactory as that of some other operators. In considering these cases of hay fever, I have been struck with the apparent immunity from this affection experienced by those suffering from anosmia. I have never seen essential anosmia in a subject of hay fever. I would ask the experience of the Fellows in regard to the efficacy of the galvano-cautery treatment as a preventitive or a cure for hay fever.

Dr. C. E. Sajous, of Philadelphia. In the early part of my experience with the galvano-cautery, I obtained excellent results. I had a number of favorable cases. Last year I met with a number of unsatisfactory cases. What it depended on I do not know, but the results were not by any means as good as those of the preceding year; it was certainly not from want of attention on my part. Although all the cases were benefitted, I think I did not obtain absolute relief in more than forty-five per cent. Some of the cases treated two years ago, and which escaped the attack the following year, had a recurrence last year. This is a matter of great importance, because, in my work, I advanced the opinion that these cases were absolutely cured. Some of the cases have entirely escaped. One case treated in 1881 with glacial acetic acid has had no recurrence.

Dr. Carl Seiler, of Philadelphia. The failures of the treatment of hay fever may, I think, be explained by the suggestion thrown out in the paper read. The Schneiderian membrane is not the only source of irritation of the vaso-motor nerves. The source of irritation may be situated in the pharynx or in the larynx. If the case does not yield to treatment of the nasal membrane we should look further. Two years ago a case of hay fever presented itself to me. Glacial acetic acid was applied, and the following summer he was free from hay fever, but suffered with asthma. Examination showed a large posterior hypertrophy. This was removed, and since then he has had neither hay fever or asthma.

Dr. J. N. Mackenzie. As I have stated in my paper, if the trouble depends upon affection of the nasal membrane, the removal of the cause with the physiological rest of the nerve-centres will be sufficient to effect the cure. There are other cases, however, in which there is a general condition of the nervous system which must be removed. I have had cases in which the cure was effected simply by the above plan of treatment without any local applications whatever.

Dr. Samuel Johnston, of Baltimore, read a paper entitled

A CASE OF NASO-PHARYNGEAL GROWTH.

A child was brought to him on account of difficulty in breathing through one nostril. Examination showed that there was a tumor filling up the posterior part of the right nostril. After a short preliminary treatment, the attempt was made to remove the growth with the ecraseur. A spray of a four per cent. solution of cocaine was employed. A cord was first passed through the nostril and brought out of the mouth so that if necessary, the nostril could be plugged without delay. The wire of the ecraseur was applied without difficulty. When the growth had been cut through about two-thirds, the shaft of the instrument broke, leaving the wire and about three-fourths of an inch of the instrument attached to the growth. An attempt was made to apply a second ecraseur, but this failed. After trying to remove the portion of instrument broken off, it was decided to wait a short time and allow the growth to slough off. Four days later the attempt to apply an ecraseur was again made and succeeded without difficulty. The tumor measured one and one-half inches in diameter and was fibroid in character.

WHAT CASES OF NASAL CATARRH REQUIRE SURGICAL TREATMENT?

by DR. C. C. RICE, of New York.

Almost every nasal chamber will exhibit irregularities and abnormalities of some kind. The introduction of more improved methods of determining the locality of inflammation has led to a more frequent resort to surgical measures. With the galvano-cautery, almost any effect from a slight stimulation to destruction of tissue can be obtained. Those who condemn this instrument should state what use of it they object to. Not every case of anterior hypertrophy should be operated upon. The erectile tissue in this situation serves a valuable physiological function in swelling up and excluding irritating particles from the lungs. In determining whether or not an operation is required, the sensations of the patient should be taken into consideration, with the results of the examination. If after the use of a four per cent. solution of cocaine, sufficient hypertrophy to interfere with breathing is still apparent, it should be removed.

DR. F. H. BOSWORTH, of New York. The speaker has referred to the swelling up of the erectile tissue of the nose as a physiological function. I consider that this tissue is not a true erectile tissue. It assumes the erect position only as a morbid condition. It is simply an enlarged conglomerate mass of bloodvessels. There is no physiological function observed by its swelling up.

He also states that all persons will present abnormalities of the nose. It is a mistake to suppose that we have morbid conditions in every nose. The healthy nasal cavities present a typical appearance.

DR. J. N. MACKENSIE, of Baltimore. The microscope shows that the erectile tissue of the nose corresponds with the erectile tissue in other portions of the body. I believe that these bodies serve the physiological purpose of excluding irritating bodies from the lower respiratory tract. Experiments with horses driven through a cloud of dust have shown that while the anterior portion of the nose was filled with dust, none passed into the larynx.

The President, DR. HARRISON ALLEN. The question of the erectile tissue of the nose should be treated on a broader basis. In man, the nasal chambers are exceedingly degenerate. There is no animal in which the nose is so small in comparison with the rest of the face, as in man. It is well known that structures which are passing through a process of degeneration are exceedingly variable. So it is with the human nasal chambers.

Remembering this fact we come to another of great interest, that all animals with short faces, as the rabbit and cat, have on the nasal septum, erectile bodies. I have always held that the object of these bodies was obstructive and that by swelling up they protected the portions behind. If that is the case, I do not see why we cannot claim that erectile tissue exists in man. It is my opinion that erectile tissue does exist and is protective and obstructive.

The following papers were read by title:

INFLAMMATION OF THE ANTRUM,

by DR. BEVERLY ROBINSON, of New York.

ADDITIONAL NOTES ON A CASE OF ERYSIPELAS OF THE LARYNX,

by WILLIAM PORTER, M.D., of St. Louis.

A vote of thanks was then tendered the Philadelphia College of Physicians, the Union League Club, the University Club, and the Managers of the Pennsylvania Hospital, for courtesies extended.

The association then adjourned, to meet in New York at the call of the council.

MASSACHUSETTS MEDICO-LEGAL SOCIETY.

W. H. TAYLOR, RECORDING SECRETARY.

THE ninth annual meeting was held June 8, 1886, at the rooms of the Boston Medical Library Association, and was called to order at 11.20 A. M. by President Winsor. Present, twenty-five members. Records of the last meeting were read and approved.

Medical Examiner Tower, Treasurer, made his report, which was approved. *Voted*, that the assessment for the current year be two dollars.

On balloting for officers for the ensuing year, the following gentlemen were elected: President, F. Winsor, M.D., of Winchester; Vice-President, J. G. Pinkham, M.D., of Lynn; Treasurer, C. C. Tower, M.D., of South Weymouth; Corresponding Secretary, B. H. Hartwell, M.D., of Ayer; Recording Secretary, W. H. Taylor, M.D., of New Bedford. The President appointed the following gentlemen as Standing Committee: Medical Examiners, F. W. Draper, of Boston; S. D. Presbrey, of Taunton; and A. F. Holt, of Cambridge.

Voted, on motion of Medical Examiner Draper, that the Standing Committee be instructed to publish, in the usual manner, the Transactions of this Society for the current year, and that a copy of the present law relating to medical examiners be printed in the pamphlet.

Medical Examiner Draper read a communication from Clark Bell, Esq., of the *New York Medico-Legal Journal*, soliciting subscriptions.

Voted, on motion of Medical Examiner Holt, that this Society subscribe for three copies of the *New York Medico-Legal Journal*.

Medical Examiner Taylor read a paper on

A CASE OF HOMICIDE.

The paper was discussed by members Holt, Eller, and Harris.

On recommendation of the Executive Board, Medical Examiner F. J. Canedy, of Shelburne Falls, was unanimously elected a member of this Society.

Recent Literature.

Quiz-Compend of Pharmacy. By F. E. STEWART, Ph. G. Based upon Prof. J. P. Remington's "Text-Book of Pharmacy." viii, 196. Philadelphia: P. Blakiston, Son & Co. 1886.

This manual claims for itself not to teach new facts, but to present facts already well known to science in a form easy to comprehend, and to aid students in memorizing Professor Remington's lectures and text-book, and thus to pass their examinations in a creditable manner. This it undertakes to do by a system of questions and answers of a very elementary character, of which the following is a sample, opened at random: "What is a furnace? a species of stove for generating heat. What are the elements of a furnace? the air-flue, combustion-chamber, and vent or chimney. What is the best fuel for generating heat? anthracite coal."

Medical and Surgical Journal.

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MEDICINE OF THE FUTURE.

IT is inevitable that more than ordinary interest should attach to the last printed words of any man who through a long life-time has contributed largely to the instruction of his fellows in a department of learning in which he is a recognized authority. The late Dr. Austin Flint, of New York, had been invited to give the address in Medicine at the annual meeting of the British Medical Association, the approaching summer. The high honor paid to any foreigner who might be selected to make such an address would naturally stimulate its recipient to his best endeavor, and though the writer probably had no thought that this task would prove his last, that fact has given it a fortuitous interest in addition to its intrinsic value.

The manuscript of the address was found completed among Dr. Flint's papers after his death, and it has been printed by his son in a neat and attractive little volume, prefixed with an excellent photograph of its author. The subject is "Medicine of the Future." After referring to the various advances and discoveries which have marked epochs in the evolution of medical science, the writer says that the next half century must be destined to produce similar pivotal discoveries, and if we may judge of the future from the past that the frequency of their occurrence will be greater than in the preceding interval of equal length.

Fifty years ago when Horner discovered the little lachrymal muscle, it might have been thought that this would be about the last thing to be learned in anatomy. But other facts were learned and since then the whole great subject of microscopical anatomy has shown the dim outlines which permit us to judge of its enormous extent. Of course, to particularize the epochs that are to take place would be equivalent to making them, and hence is impossible. But conjecture regarding the means by which, and the paths in which these discoveries are to be made is not devoid of interest or profit.

Microscopical investigation, with dyes to make visible what otherwise would elude vision, is a path recently opened and in which great advances in the immediate future may be hoped for. Yet though histology is now in the ascendant, the writer predicts that there will be a light thrown by organic chemistry which will penetrate dark recesses that histology cannot reach. He believes that the micro-organisms which now are the supreme objects of study in pathology are pathogenetic, not directly, but indirectly, by means of the toxical products of their activity. This link in the chain can only be reached through the agency of organic chemistry as applied both to healthy and diseased, to living and dead, tissues.

The recent advances in electricity and acoustics, as exemplified by the telegraph, telephone, microphone, and phonograph, lead the writer to look for results from the application of the same principles to the normal and abnormal actions taking place within the body. It seems to him certain that the principle of the telephone will by and by be applied to intra-thoracic respiratory and heart sounds. The clinical teacher may even be able to demonstrate auscultatory signs to a lecture-room full of students.

The prediction of Robert Hook, an eminent Englishman of science, early in the last century, that we might some time "discover the works performed in the several offices and shops of a man's body by the sounds they make," gives, in the light of the achievements of auscultation, some ground for Dr. Flint's extension of the prophecy to the possibility of studying through "the sounds they make," the processes of secretion and excretion, of nutrition and of morbid growths.

The discoveries in bacterial etiology which lead us to the belief that there is a specific organism for every infectious disease, the discovery of which is simply a question of time, leads to the admission that while we possess in quinine a specific parasiticide for the as yet incompletely known germ of intermittent fever, it is after all in the destruction of germs outside rather than inside the human body, that medical science is likely to gain its chief victories for the present.

Many of the great glandular organs of the body whose processes are as yet little understood are doubtless subject to derangements whose nature is as yet equally unknown, such as the spleen, the glands of the stomach and of Lieberkühn, the thyroid body, the lymphatic glands, the suprarenal capsule. Who is to do for them what Bright did for the kidneys?

We have left ourselves little space to speak of the other important matters touched upon by Dr. Flint,— of questions of medical literature and education, of the destined supercedure of works covering the whole range of practice by monographs and separate treatises: of the discontinuance of didactic instruction in favor of clinical and the replacement of the former by recitations from text-books; of the dangers of unlimited specialism,— these and other matters he views in the light of a personal recollection of the changes of the last half century. If some of the predictions are imaginative yet none are idle. They have a basis in what has already been accomplished. When a man

like Dr. Flint has been so fortunate as to live through such a period of professional growth, in him it is true that

"Old experience doth attain,
To something like prophetic strain."

THE MOVEMENT CURE IN CHINA.

THE Swedish movement cure or hygienic gymnastics developed by Ling, the promoter of health-gymnastics as practised in all the Swedish schools and gymnastic clubs, is thoroughly systematized, consists of a great variety of movements and is possessed of a considerable literature of its own. A gymnastic institute is maintained by the government in Stockholm, in which gymnastic instructors and doctors of hygienic gymnastics are trained and educated. The system is based upon sound physiological principles, and the value of the active movements for the maintenance of health and of the passive movements as a therapeutic measure in dealing with disease are generally recognized at home and abroad. In grotesque contrast to a movement cure as thus practised and developed from a correct physiology is the movement cure as expounded and practised in China, which is an amusing example of the consequences of correct reasoning from wrong premises. The twenty-ninth issue of the "Medical Reports of the Chinese Customs" contains an illustrated sketch by Dr. Macgowan, of the history and practise of this cure among the Chinese. Its literature and antiquity are most respectable even for that country, and are traced back to a legendary personage who had attained the age of twelve centuries, when the Yellow Emperor (B. C. 2697) sought instruction from him in the art of prolonging life. The most learned expositor of the subject at the present time is the Governor of Hupeh, by name P'an Wei, whose writings on the movement cure gained him such celebrity that he was summoned to Pekin from a remote part of the empire on the occasion of the fatal illness of the late Empress.

Swallowing air was regarded as one of the main points in the movement cure. Life depending on the existence of a primary aura, death cannot occur so long as a particle of it is retained in the system; a deficient supply is the cause of disease; when it duly permeates the system every ailment is averted. The object of the postures, motions and frictions is to promote the due circulation of that vital air. The air starts in its circulatory movement from the "little heart," which is situated in the pubic region; is conveyed thence by air vessels anteriorly upward to the forehead, and is returned posteriorly to the "little heart."

In this standard treatise edited by the learned Governor, the period of air-swallowing and friction exercises is divided into three parts of 100 days each, and for each of these periods quaint and elaborate instructions are given for air-swallowing, frictions and massage; but the sceptic finds the pith of the whole thing and the main secret of the benefits which the patients are supposed to receive in the closing injunction that continence is to be maintained during the whole 300 days except once between the 100-day periods, and ever afterwards except once in fifty days. The Chinese scientists seem to understand human nature better than anatomy, and in this respect could probably learn nothing even at a German Spa.

On completing the 300 days, muscular movements are commenced, of which there are twelve kinds represented in Dr. Macgowan's article by as many woodcuts. The operations are to be performed three times daily for an indefinite period. In going through the exercises there is to be no thinking, the mind must be absolutely quiescent. Among other similar exercises which may be resorted to either for prophylactic or therapeutic purposes a certain variety is allowed and the following are recommended:

"Squat with the sole of the foot brought against the scrotum; elevate the knees; rise slowly and gradually; relax the rigidity of the arms. When seated sit erect. Fillip the back of the head with both hands, pressing them against the occiput, the index finger being free to slip with force from the ring finger, causing a "heavenly drum-noise"; clasp the neck with both hands and turn the head 36 times; rub the hands until they become warm, then rub the face. Get on all fours, with head turned back, five times. Mouth to be closed when performing the exercises; when it is parched and bitter, open it and gasp several times, and fillip the occiput nine times, and wag the tongue till saliva is secreted when it will become cool. Before going to sleep sniff four times; expel air from the mouth the first thing on rising, and inhale by the nostrils. Sleep with closed mouth (enjoined on children, who are told that otherwise they will not escape rat's droppings.) Shut the teeth firmly 36 times; in urinating keep them closed. Beat the shoulders with clenched fists seven times. Squatting, rub the soles of the feet until they become warm; sit kicking out one foot after another. Swing the arm in its socket 24 times. Get again on all fours 13 times raising and depressing the back. Walk 100 steps, rubbing the abdomen with both hands, concentrating the mind on the "little stomach" in the pubic region. Hold the scrotum with one hand and the belly with the other; change hands 81 times. Rub the renal region."

Here is certainly a pretty mess of sense and nonsense all carefully reasoned out. Although unable to endorse the Chinese physiology, and doubting the existence of the "little heart" in the pubic region, we do still heartily commend the principle of "air-swallowing" to political demagogues and labor reformers in America.

THE BOYLSTON MEDICAL PRIZE.

WE have, on more than one occasion, been obliged to lament the departure of the above-named prize from the vicinity of the University which may be said to foster it. It has led us to suspect a degeneration either in ability or in industry. Local pride will be gratified to know that the award has, this year, been secured by a Boston man, the premium of two hundred dollars for an essay on the "Relation of Hospitals to Medical Education," having been awarded to Dr. Charles F. Withington, of Boston.

MEDICAL NOTES.

—"Labor among Primitive Peoples" will be remembered as the title of the interesting contribution to the history of midwifery, by Dr. Engelmann, of St. Louis. It is a significant comment on the character of the questions now before the public mind, to say that an order having been sent to one of our largest book stores for the above volume, the entire available force of the establishment was engaged for half a day, in an ineffectual search for it throughout the department of political economy. We are reminded, in this same connection, to mention the remark of a parent whose experience of offspring had been chiefly that of twins, that he considered the double births an improvement over the more general custom, as a "labor-saving institution."

— The results of a curious but very important test as to the accuracy with which chemists, druggists and others make up prescriptions committed to their care has, as we learn from *Chambers's Journal*, recently been presented to one of the London vestries. Fifty prescriptions were sent out to ordinary druggists, to coöperative stores, to "doctors' shops," and to certain traders styling themselves drug companies. The mixtures made were afterward analyzed, to find out how nearly they agreed with the prescriptions they represented; but in order to give a liberal margin for error, it was resolved not to put a black mark against any one if the chief constituent were within ten per cent. of the right amount. Notwithstanding this margin, no fewer than seventeen out of the fifty mixtures were incorrectly dispensed. In one case the principal drug was less by eighty-five per cent. than the amount ordered, while in another it was fifty-seven per cent. in excess. The chemists and druggists came out best in this strange competition, as only six per cent. of their prescriptions had to be called in question. Next came the coöperative stores with twenty per cent. of error; then the "doctors' shops" with fifty per cent., and lastly the drug companies, who are credited, or rather discredited, with seventy-five per cent. of errors.

NEW YORK.

— Typhus fever, which appeared several weeks ago in the Deborah Nursery, a Jewish institution, in East Broadway, has now broken out afresh, and on June 7th, eight children suffering from the disease were removed to the fever hospital on North Brother Island. Thirty of the inmates in all have been attacked since its first appearance. On the 10th, it was deemed advisable to remove all the remaining children, and have the building thoroughly disinfected.

— The annual meeting of the New Jersey State Medical Society was held at Sea Girt, on the New Jersey coast below Long Branch, June 8th and 9th. The address of the President, Dr. Joseph Parrish, of Burlington, was on the "Geography of Malaria," and the Committee on Business announced that the subject of the next annual address would be "What is the Personal Experience in the Use of Antipyrine; Does it permanently reduce temperature, or modify the course of disease?" A number of papers were read and discussed, and a resolution was adopted approving of vivisections and expressing disapproval of the action of societies or persons who, on the ground of prevention of cruelty to animals would throw obstacles in the way of experiments having for their object the relief of human life. The following officers were elected; President, Dr. Charles J. Kipp: Vice-Presidents, Drs. H. G. Taylor, John W. Ward, and B. A. Watson; Corresponding Secretary, Dr. William Elmer, Jr.; Recording Secretary, Dr. Wm. Pierson, Jr.; Treasurer, Dr. W. W. L. Philips.

— Dr. Horace Putnam Farnham, a most highly esteemed practitioner, died June 9th, after a long and painful illness. He was born in Salem, Mass., in 1822, and graduated from Harvard College in 1843, after which he began the study of law in the office of Rufus Choate. He also went through the course at the Dana Law School, and was admitted to the Bar; but never practised. Later he decided to study medicine, and was graduated from the Jefferson Medical College, of Philadelphia, in 1860; since which time he has resided and practised in New York. He was a member of a number of medical societies, and for several years was treasurer of the New York Academy of Medicine, a position the resignation of which was received with great reluctance by the Academy. He had an extensive practice, and his genial manners made him a general favorite.

Miscellany.

A FIRST-CLASS IMPOSTOR.

A CORRESPONDENT writes us, warning physicians against a man calling himself John Redley, and representing himself as agent of Belknap & Company, of Boston, manufacturers of rubber stamps, etc. This man, who is a first-class swindler and "dead-beat," has already gulled physicians of Essex and other counties out of hundreds of dollars — in small sums — for goods which, of course, are never delivered as promised.

TWO RARE VARIETIES OF RUPTURE OF THE BLADDER.

THE following summary is given in the "Annals of Surgery," April, 1886, of a paper, on the above subject, by Dr. A. Pousson, which appeared in the *Révue de Chirurgie*, No. 11, 1885. The question is raised of the possibility of an absolutely spontaneous rupture of the bladder, that is, rupture without pathological alteration in its walls, and without traumatism. The author adduces testimony to show that the tear may result from either the contraction of the abdominal walls on a full bladder, or the contractions of the walls of the bladder itself.

In support of the first explanation of the accident, cases are cited in which men lifting great weights felt a sudden pain in the hypogastrium, and could not uri-

nate afterwards. Death speedily ensued, and rupture of the bladder was found at the necropsy. The violent straining with the abdominal muscles on a full bladder was the cause of the injury. The sphincters are held with peculiar firmness during muscular efforts, and thus the overload of urine cannot escape through the urethra. If there happens to be a stricture of the urethra, the danger is so much the greater.

The theory of the causation of rupture by the second method is upheld by a new view of the physiology of that viscus. It is maintained that the hypertrophied bladder-walls are as capable of spontaneous rupture as those of the heart and gravid uterus. In experiments on the heart, it is shown that the thinner-walled cavities rupture most easily from external violence, but the thicker from their own contractions. The hypertrophy of the bladder on account of stricture, may justly be compared to the hypertrophy of the heart arising from valvular lesion. Desnos has demonstrated that the contractions of an inflamed bladder are as sudden as those of striated muscles, and occur very frequently. Distention invites contraction; and when there is an obstacle to the discharge of urine, by way of the urethra, rupture occurs. Even for a long time after anæsthetization, these spasmodic and irregular contractions do not cease. Numerous cases are reported bearing upon this theory, notably one in the hands of Verneuil, where a gentle injection of only 125 grams was immediately followed by the bursting of the bladder; and one in which Guyon was preparing to perform hypogastric lithotomy. The latter had thrown 200 grams of boric solution into the bladder, and 300 grams of fluid into the rectal balloon, but the vesicle globe did not appear. A little more fluid was injected into the bladder, and the hypogastrium was distended for a moment, but then suddenly became flat. Death occurred in twenty-two hours, and the necropsy showed the walls of the bladder to be eight mm. thick, with an anterior perforation twelve mm. long.

The following classification is suggested: —

Rupture healthy bladder.	Traumatic.	From direct cause.
		From indirect cause.
	By effort.	
Rupture diseased bladder.	By perforation.	
	By contraction of its walls.	

The term "spontaneous rupture" should be discarded, as it explains nothing and satisfies nobody. "Rupture from idio-muscular contraction" is suggested as a suitable substitute.

Rupture by the action of the muscular walls cannot be prevented by the surgeon in ordinary cases; but, by emptying their bladders, he can protect his patients against the danger of sudden contractions in the excitement period of anæsthetization. If there is a tight stricture and the bladder is full, hypogastric aspiration should first be practised. No careful surgeon will puncture a bladder with the beak of a catheter; but it is possible for a bladder to contract upon the instrument, and thus be perforated. That an irritable bladder can rupture itself should warn us against an approved surgical procedure — the distention of small and irritable bladders by forcible injections. Anæsthesia should be complete before any operation on the bladder, so that the liability to contraction may be reduced to a minimum. It is better to do lithotrity almost dry, and to replace supra-pubic lithotomy with perineal, than to subject a patient to much risk of rupture by distending an irritable bladder.

The prognosis is far less grave in extra than in intra-peritoneal rupture. In the former case, if a free perineal opening is made in the bladder, the chance of recovery is greatly augmented.

A CASE OF DELIRIUM TREMENS CAUSED BY CHEWING TEA.

DR. W. B. SLAYTER writes in the *Lancet*, April 24, of a somewhat remarkable case, which he thus describes: —

"On November 10th, 1879, I was summoned by a lady to see her female servant. The girl complained of sleeplessness, nervousness, and repeated twitchings of the muscles of the face and extremities, which would continue for several minutes at a time. These symptoms had been present for several months previously. Her mistress informed me that the girl had been acting strangely for several days. She was wandering in her mind at times, and imagined people and evil spirits were about her seeking to do her harm. She had not slept for several nights, and on one or two occasions had been found at night wandering about the house. Pulse 96 and small; tongue dry and brown; eyes suffused; irregular action of the heart; weight at præcordia; sallow complexion. A dose of bromide of potassium and hydrate of chloral gave her a good rest for the night, and next morning she was sent home to her mother.

"At 4.30 A.M. on the 13th, I was again summoned to see her. Some men had found her walking about one of the wharves of our city, in the neighborhood of her mother's house. They tried to persuade her to go home, but she broke away from them and endeavored to jump off the end of the wharf, when she was caught and taken to her home. I found her with a pulse of 110°, and a very dry and brown tongue, suffused eyes, no marked increase of temperature, violent delirium, and tremulous hands and arms — in short, the well-marked symptoms of delirium tremens. Her mother informed me that she had complained of a good deal of pain in the abdomen, and on examination I found a smooth, quite hard tumor in the right iliac region, half as large again as an ordinary orange. Owing to the violent delirium I was unable to find out whether it was tender to the touch or not. A hypodermic injection of morphia somewhat relieved the nervous symptoms. A brisk cathartic brought away a mass of hardened fæces, followed by a large quantity of thickish tarry-looking excreta, which seemed to be made up of tea-leaves in different stages of maceration, quite a large proportion, probably a third, being tea-leaves quite unchanged in appearance or color. Bromide of potassium and chloral in a few days quieted the nerve-centres; good nursing, proper diet, and tonics soon restored the patient to her usual health. After the action of the cathartic I found the abdominal swelling somewhat lessened in size, but it was not until several doses at intervals had been administered that the tumor entirely disappead. After each dose a quantity of tea-leaves were expelled. In about three weeks the evacuations were normal in appearance, and her general health was fairly restored."

After an interval of some years, the writer again saw this patient. The same well-marked symptoms of deli-

rium tremens were present; there was no tumor to be found, but the evacuations contained a plentiful supply of tea-leaves. The same course of treatment soon restored her to health. The patient then informed him that when about seventeen years of age she went to one of the New England towns to work in a factory, and there contracted the habit of chewing tea — a habit, she stated, quite common amongst the factory girls. [Of the general existence of this habit, we, in the more immediate neighborhood of where it is said to have been common, confess to having been ignorant.] She thought she chewed on an average about half a pound of tea daily, and some days more. It made her feel better able to work. Of course, as to quantity her estimate may not be depended on. She had never been addicted to alcoholism, and ascribed her attacks solely to tea-chewing. She tried to give it up, but felt so nervous and fidgety as to be compelled to return to the old habit. The chief points of importance in this case are the *cause* and the *repeated and continuous muscular twitchings*. Of course most physicians have met with many cases of great nervousness and fidgetiness occasioned by excessive tea-drinking, but few cases if any are recorded in any of the works on medicine or materia medica of such severe symptoms being induced by tea-chewing.

REPORTED MORTALITY FOR THE WEEK ENDING JUNE 5, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Diph. and Croup.	Whoopi'g Cough.
New York	1,439,039	577	222	17.17	17.85	3.40	7.05	1.53
Philadelphia	971,363	344	111	12.00	15.00	1.80	3.30	1.20
Brooklyn	690,000	249	88	12.80	12.80	.40	10.00	1.20
Chicago	630,000	—	—	—	—	—	—	—
Boston	390,406	144	52	9.66	18.60	4.83	2.07	2.07
St. Louis	400,000	147	57	16.32	14.28	4.08	.68	.68
Baltimore	417,220	—	—	—	—	—	—	—
Cincinnati	325,000	—	—	—	—	—	—	—
New Orleans	238,000	141	61	22.72	17.04	13.49	.71	—
Buffalo	202,818	—	—	—	—	—	—	—
District of Columbia	205,000	—	—	—	—	—	—	—
Pittsburgh	190,000	69	32	21.75	10.15	8.70	7.25	2.90
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	118,070	43	—	16.31	11.66	6.99	6.99	—
New Haven	78,000	—	—	—	—	—	—	—
Nashville	60,000	22	7	27.30	18.20	9.10	4.55	—
Charleston	60,145	65	35	29.26	16.16	18.48	—	—
Worcester	68,383	24	9	8.32	20.80	—	—	—
Lowell	64,051	16	—	12.50	30.75	—	—	—
Cambridge	59,660	14	5	14.28	14.28	—	14.28	—
Fall River	56,863	—	—	—	—	—	—	—
Lynn	45,861	14	6	14.28	35.70	—	7.14	—
Lawrence	38,825	13	2	15.38	23.07	7.69	—	—
Springfield	37,577	16	3	—	—	—	—	—
New Bedford	33,393	11	2	9.09	9.09	—	9.09	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	12	2	—	8.00	—	—	—
Holyoke	27,894	12	5	8.33	16.66	8.13	—	—
Chelsea	25,709	12	3	8.33	16.66	—	8.33	—
Taunton	23,674	3	—	—	100.0	—	—	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	4	1	—	50.00	—	—	—
Brockton	20,783	2	—	—	—	—	—	—
Newton	19,759	4	2	—	25.00	—	—	—
Malden	16,407	7	1	28.56	14.28	—	14.28	—
Fitchburg	15,375	2	2	50.00	—	50.00	—	—
Waltham	14,609	2	1	—	—	—	—	—
Newburyport	13,716	5	—	20.00	20.00	20.00	—	—
Northampton	12,896	—	—	—	—	—	—	—
Massachusetts Towns	—	—	—	—	—	—	—	—

Deaths reported 1,964: under five years of age 709: principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 314, diphtheria and croup 101, consumption 412, lung diseases 191, diarrhœal diseases 91, whooping-cough 25, measles 21, scarlet fever 20, typhoid fever 18, malarial fever 14, cerebro-spinal meningitis 13, erysipelas six, puerperal fever four, small-pox (New York) one. From measles, Baltimore 10, New York five, Charleston four, Nashville two. From scarlet fever, New York, seven, Brooklyn six, Philadelphia four, New Orleans, Pittsburgh and Providence one each. From typhoid fever, Philadelphia 10, Baltimore two, New Orleans and Brooklyn one each. From malarial fevers, New Orleans six, New York four, Philadelphia two, Brooklyn and Baltimore one each. From cerebro-spinal meningitis, New York eight, Worcester two, Boston, Baltimore and Nashville one each. From erysipelas, New York two, Philadelphia, Brooklyn, Baltimore and Springfield one each. From puerperal fever, Philadelphia two, Baltimore and Pittsburgh one each.

Cases reported in Boston: scarlet fever 20, diphtheria 17, measles 17, and typhoid fever seven.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending May 22d the death-rate was 18.7. Deaths reported 3,254: infants under one year of age 767; acute diseases of the respiratory organs (London) 282; measles 108, whooping-cough 87, fever 27, diarrhœa 27, scarlet fever 21, diphtheria 15, small-pox (Liverpool) one.

The death-rates ranged from 12.5 in Derby to 34.0 in Preston; Birmingham 18.9; Blackburn 18.7; Brighton 13.0; Hull 16.1; Leeds 20.2; Leicester 19.1; London 17.3; Liverpool 22.4; Manchester 25.2; Sheffield 18.3; Sunderland 16.8.

In Edinburgh 21.1; Glasgow 25.5; Dublin 28.7.

For the week ending May 22d, in the Swiss towns, there were 45 deaths from consumption, lung diseases 40, diarrhœal diseases 13, measles eight, whooping-cough seven typhoid fever, diphtheria and croup, each three, small-pox two.

The death-rates were: at Zurich 14.1; Geneva 36.3; Basle 22.2; Berne 23.5.

The meteorological record for week ending June 5, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps: —

Week ending Saturday, June 5, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday,...30	29.790	61.0	85.0	59.0	57.0	31.0	70.0	53.0	W.	W.	W.	8	16	14	C.	C.	O.	—	—
Monday,.. 31	29.953	62.0	68.0	58.0	81.0	63.0	79.0	79.0	N.E.	S.E.	W.	10	11	4	O.	F.	C.	—	—
Tuesday,.. 1	30.109	60.0	66.0	54.0	53.0	58.0	78.0	63.0	N.E.	E.	W.	7	10	8	C.	O.	C.	—	—
Wednes., 2	29.998	66.0	76.0	54.0	62.0	57.0	90.0	70.0	W.	S.W.	S.W.	4	16	14	F.	F.	O.	—	—
Thursday, 3	29.843	63.0	69.0	59.0	84.0	60.0	60.0	69.0	S.W.	W.	N.W.	18	17	16	O.	F.	C.	—	—
Friday, ... 4	30.069	58.0	66.0	51.0	64.0	65.0	62.0	59.0	N.	E.	S.W.	9	12	16	C.	F.	C.	—	—
Saturday,. 5	30.061	62.0	75.0	52.0	66.0	37.0	58.0	54.0	W.	S.W.	S.W.	5	12	5	F.	C.	C.	.6½	0.54
Mean, the Week.																			

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JUNE 5, 1886, TO JUNE 11, 1886.

BAXTER, J.H., colonel and chief medical purveyor. Ordered to proceed to New York City on public business, and on the completion thereof to return to his station. S. O. 128, A. G. O., June 3, 1886.

PAGE, CHARLES, lieutenant colonel and surgeon. Granted leave of absence for one month, with permission to apply for ten days extension. S. O. 55, Department of Missouri, June 1, 1886.

FRYER, BLENCOWE E., major and surgeon. Sick leave of absence still further extended six months on surgeon's certificate of disability. S. O. 131, A. G. O., June 7, 1886.

TILTON, HENRY R., major and surgeon. Ordered for duty as post-surgeon, Presidio of San Francisco, Cal. S. O. 38, Department of California, June 1, 1886.

ADAIR, G. W., captain and assistant surgeon. Granted leave of absence for two months, to take effect when his services can be spared. S. O. 128, A. G. O., June 3, 1886.

CARTER, W. F., captain and assistant surgeon. Ordered for duty (temporary) at Fort Concho, Texas.

Paragraph 2, S. O. 55, Department of Texas, c. s., granting assistant surgeon Carter leave of absence for one month, is revoked. S. O. 64, Department of Texas, June 1, 1886.

BLACK, first lieutenant and assistant surgeon. Ordered for duty at Fort Stockton, Tex. S. O. 64, Department of Texas, June 1, 1886.

NOTICE.

BOWDOIN MEDICAL ALUMNI ASSOCIATION.—The third annual meeting will be held in Memorial Hall, Brunswick, at twelve o'clock, noon, Wednesday, June 23, 1886. At the close of the business meeting, a banquet will be served in the lower hall.

CORRECTION.

Our remarks in a recent editorial regarding the place given in the advertising columns of a scientific contemporary to compound oxygen should not be understood as having reference to the *Journal of Chemistry*, which published an analysis exposing the negative value of that preparation.

BOOKS AND PAMPHLETS RECEIVED.

Reports of the Trustees and Treasurer of the Lynn Hospital for 1885.

The Student's Manual of Venereal Diseases. Being a Concise Description of those Affections and of their Treatment. By Berkeley Hill, M.D., and Arthur Cooper, M.D. Fourth Edition. Revised. Philadelphia: P. Blakiston, Son & Co. 1886.

Nineteenth Report of the Medical Staff of St. John's Hospital submitted at the Annual Meeting, April 5, 1886. Lowell, Mass. 1886.

On the Limitations of the Contagious Stage of Syphilis, especially in its Relations to Marriage. By F. N. Otis, M.D., New York. (Reprinted from Journal of Cutaneous and Venereal Diseases. Vol. IV. March and April, 1886. New York: Wm. Wood & Co. 1886.

The Elements of Chemical Arithmetic, with a Short System of Elementary Qualitative Analysis. By J. Milnor Coit, Ph. D., Master in St. Paul's School, Concord, N.H. Boston: D. C. Heath & Co. 1886.

Haschisch. A Novel by Thorald King. Chicago: A. C. McClurg & Co. 1886.

Diseases of the Spinal Cord. By Byrom Bramwell, M.D., F.R.C.P. (Edin.), Lecturer on the Principles and Practice of Medicine, and on Medical Diagnosis, in the Extra Academical School of Medicine, Edinburgh, etc. 53 colored plates and 102 fine wood engravings. Second Edition. New York. Wm. Wood & Co. 1886.

The Genuine Works of Hippocrates. Translated from the Greek with a Preliminary Discourse and Annotations. By Francis Adams, LL.D., Surgeon. In two Volumes. Vol. I. New York: Wm. Wood & Co. 1886.

Insanity and its Treatment. Lectures on the Treatment, Medical and Legal, of Insane Patients. By G. Fielding Blandford, M.D., Oxon, F.R.C.P., London, etc. Third Edition. Together with Types of Insanity, an Illustrated Guide in the Physical Diagnosis of Mental Disease. By Allan McLane Hamilton, M.D. New York: Wm. Wood & Co. 1886.

Handbook of Practical Medicine. By Dr. Hermann Eichhorst, Professor of Special Pathology and Therapeutics, and Director of the University Medical Clinic in Zurich. Vol. I. Diseases of the Circulatory and Respiratory Apparatus. 103 Wood engravings. New York: Wm. Wood & Co. 1886.

Résumé of the Retiring Address of Prest. Prof. R. O. Doremus, M.D., LL.D. Before the Medico-Legal Society, January 20, 1886.

Report of the Year 1884–85. Presented by the Board of Managers of the Observatory to the President and Fellows of Yale College.

China. Imperial Maritime Customs, II. Special Series: No. 2. Medical Reports, for the Half-Year ended March 31, 1885. Twenty-Ninth Issue. Published by order of the Inspector General of Customs. Shanghai. 1885.

First Annual Report of the State Board of Health of the State of Maine. For the Fiscal Year ending December 31, 1885. Augusta: Printers to the State. 1886.

Public Health. The Lomb Prize Essays. Award made at the Thirteenth Annual Meeting of the American Public Health Association. Washington, D.C., December 10, 1885, with an Appendix. Concord, N.H.: Republican Press Association. 1886.

Transactions of the Obstetrical Society of London. Vol. xxviii. For the Year 1886. Part I. for January and February. London: Published by the Society. 1886.

A Contribution to the Pathology of Hemianopsia of Central Origin (Cortex Hemianopsia.) By E. C. Seguin, M.D. (Reprint from the Journal of Nervous and Mental Disease, Vol. xiii, No. 1. January, 1886.)

On the Presence of the Tubercle Bacillus in old Specimens of Diseased Lung. By Vincent D. Harris, M.D., F.R.C.P. (Reprint from St. Bartholomew Hospital Reports, Vol xxi. London. 1886.)

The Sixty-Second Annual Report of the Officers of the Retreat for the Insane at Hartford, Conn. April, 1886.

Ethics of Female Sterility. By A. Reeves Jackson, A.M., M.D., Professor of Gynæcology in the College of Physicians and Surgeons of Chicago, etc. (Reprint. The Physician's Magazine, Vol. I, No. 3. Philadelphia.)

Lectures.

CHRONIC CATARRHAL GASTRITIS.

INAUGURAL ADDRESS DELIVERED BEFORE THE ASSOCIATION OF AMERICAN PHYSICIANS, WASHINGTON, JUNE 17.

BY FRANCIS DELAFIELD, M.D., OF NEW YORK.

GENTLEMEN :— At the inauguration of a new Medical Association it would seem proper for the presiding officer to say some words concerning the objects of the Association and the best methods of carrying those objects into effect.

And it was my intention to do this. But, when I considered the character and attainments of those whom I was about to address, such a plan seemed to me to be unnecessary and even impertinent.

We all of us know why we are assembled here to-day. It is because we want an Association in which there will be no medical politics, and no medical ethics; an association in which no one will care who are the officers and who are not; in which we will not ask from what part of the country a man comes, but whether he has done good work and will do more, whether he has something to say worth hearing, and can say it. We want an association composed of members, each one of whom is able to contribute something real to the common stock of knowledge: and where he who reads such a contribution feels sure of a discriminating audience.

We are all busy men, working men, ambitious men. We all like to give instruction and to gain reputation, and both of these we can do in the societies already existing. But we also want a society in which we can *learn* something. And this, I take it, is the real object of the enterprise which we inaugurate to-day: to form an Association of Physicians and Pathologists to which we may come year after year with the well-founded hope that at each meeting we will find something to *learn*.

Without further preface I will ask your attention to a subject of much practical importance :

CHRONIC CATARRHAL GASTRITIS.

The fact that the lining membrane of the stomach is both a mucous membrane and an organ of digestion does, in a measure, confuse our appreciation of the inflammations of this membrane. We are apt to notice especially the disturbances of digestion, and to include all the cases in the general class of Gastric Dyspepsia.

But the lining membrane of the stomach is, in part, a mucous membrane. It is frequently the seat of chronic catarrhal inflammation, and it then behaves as do the other mucous membranes under the same circumstances.

The mucous membranes which are commonly affected by chronic catarrhal inflammation are those of the eye, the nose and throat, the air passages, the stomach and the intestines. In all of these the same general laws seem to govern the lesions, the causes, the symptoms, the treatment, and the results of the treatment.

I. The Lesions. We find regularly, changes in the function and structure of the mucous glands; changes in the epithelium and in the connective tissue stroma, and changes in the tissues underlying the stroma.

So long as there are only changes in the function and size of the mucous glands, it is possible for the mucous membrane to return to its natural condition. But when there is a new growth of connective tissue in the stroma, a destruction of the mucous glands and changes in the underlying tissues, then the membrane is permanently damaged, it can never return to its normal state. It is important, however, to remember that long continued and severe symptoms often belong to the curable form of the inflammation.

II. The Causes. The ordinary causes of chronic catarrhal inflammation seem to be as follows :

1. One or more attacks of acute catarrhal inflammation which terminate not in recovery but in the supervention of chronic inflammation. Often enough, however, an interval of weeks or months will intervene between the subsidence of the acute and the development of the chronic symptoms.
2. Chronic venous congestion, of which the ordinary cause is organic disease of the heart.
3. Climate, atmospheric influences and modes of life.
4. Inherited or acquired diatheses, especially gout, rheumatism and syphilis.
5. Chronic pulmonary phthisis and chronic Bright's disease.
6. The acute infectious diseases.
7. The poisons.
8. Local irritants.

III. The Symptoms. These are regularly :

1. A change in the function of the mucous glands. They produce too much mucus, or too little, or mucus of altered quality.
2. Pain or abnormal sensations.
3. Local symptoms peculiar to the special membrane, which is inflamed. Here it is to be noted that there is no necessary relation between the severity of the symptoms and the extent of the lesions. Very marked symptoms may be associated with trifling lesions; and the most extensive lesions may be accompanied with hardly any symptoms.
4. The course of such inflammations is chronic and long continued, but not necessarily continuous. On the contrary, the symptoms are more frequently developed in successive attacks, which become more frequent, more severe and of longer duration as the disease goes on.

IV. The Treatment. The methods of treatment may be thus stated in the order of their value :

1. Climate and mode of life.
2. Applications made directly to the inflamed membrane.
3. The internal administration of drugs.

V. The Results of Treatment depend upon :

a. The degree of structural change in the affected membrane.

b. The absence or presence of complicating diseases.

c. The possibility of removing the exciting causes of the inflammation.

d. The character of the treatment.

Now let us turn to the consideration of Chronic Catarrhal Gastritis.

I. THE LESIONS.

Whether we consider the cases which are found at autopsy in the Hospital Dead House, or the cases seen during life in private practice, it is evident that in the majority of persons the inflammation goes no further than to affect the function of the mucous glands. They

constantly produce a thick tenacious mucus which adheres in a thick layer to the surface of the mucous membrane. Less frequently the mucus is thin and fluid and is vomited. With such a change in the mucous glands, the peptic glands may also give evidence of disordered function. But it is important to remember that unimpaired gastric digestion is perfectly compatible with chronic catarrhal gastritis.

Anatomically in such a gastritis the only changes which we find are an increased quantity of mucus, sometimes congestion of the bloodvessels, sometimes pigmentation, an enlargement of the mucous glands, some swelling of the stroma with a little infiltration of pus cells.

Less frequently we find more advanced changes. The connective tissue between and beneath the mucous and peptic tubules is increased in quantity and the tubules are deformed and destroyed. Polypoid tumors may project inwards. The muscular and connective tissue coats may be thickened. There may be stenosis of the pylorus. The stomach may be contracted or dilated. Or without any increase of connective tissue the walls of the stomach may be relaxed and its cavity dilated.

Chronic Catarrhal Gastritis may, therefore, mean

1. That the mucous glands produce too much mucus.
2. That in addition, the functions of the peptic tubules are affected.
3. That the structure of the mucous membrane is so profoundly changed that its digestive functions are anatomically impossible.
4. That from relaxation of the muscular wall, or stenosis of the pylorus, the food is not entirely discharged from the stomach, but portions remain there.

ETIOLOGY.

The ideas which one has to the causes of chronic catarrhal gastritis will vary somewhat, according to the experience of the hospital autopsy room, and the character of the cases observed in private practice.

In the autopsy room, we find more of the cases associated with complicating diseases, or exhibiting the very advanced lesions of gastritis. Organic disease of the heart, emphysema of the lungs, cirrhosis of the liver, Bright's disease, phthisis, and alcoholism, are evidently, in most of the cases, the causes of the gastritis.

In private practice, on the other hand, I find most of the cases in adults between the ages of twenty and fifty, a smaller number in children and old persons.

In the majority of the cases, no cause is to be discovered but the mode of life and the character of the locality in which the patient lives. The same climatic conditions which predispose to chronic naso-pharyngeal catarrh and chronic bronchitis, have the like effect as regards chronic gastritis. In a smaller number of cases, other causes can be discovered.

An attack of acute gastritis, or of gastro-duodenitis, or of gastro-enteritis, may be followed by chronic gastritis. Typhoid fever and the malarial fevers may be accompanied by an acute gastritis, which later assumes the chronic form. In some women, the disease seems to begin during pregnancy.

Alcoholism and the abuse of drugs furnish their quota of patients. Rheumatism and gout are sometimes unquestionable causes. Cirrhosis, Bright's disease, emphysema, phthisis and cardiac disease, also furnish a certain number of cases.

THE SYMPTOMS.

First among the symptoms comes pain, varying from a mere feeling of oppression and discomfort to the most severe and agonizing pain. Most common, is the feeling of uneasiness and discomfort, either following the ingestion of food, or when the stomach is empty. It is not always easy to distinguish this from pain belonging to the small intestine or the colon. Much worse, is the severe pain due, in some cases, to the presence of food in the stomach, a pain often followed by vomiting. At first, only coming on when the stomach contains a considerable amount of food, but later, continuing even after repeated vomiting, so long as the smallest fragment is left — a pain so severe, that the unfortunate sufferer has no rest by day or by night, deprives himself of almost all nourishment, and finally falls a victim to the opium habit.

Nausea and vomiting are also regular symptoms. The nausea belongs to the early morning hours. The vomiting is most frequently a vomiting of food, either in considerable quantities, or vomiting kept up so long as the smallest particle of food is left in the stomach.

In other cases, large quantities of brownish fluid mixed with mucus and food accumulate in the stomach, and are vomited from time to time. This is especially the case when the stomach is dilated.

Vomiting of pure mucus is seen in a few cases. Vomiting of blood, usually not in large quantities, may occur. Regurgitation of acid fluid in the morning belongs especially to alcoholic gastritis.

Retention and fermentation of food in the stomach are most common with the dilated stomachs, but are by no means confined to them. They are found often enough with other cases of chronic gastritis.

Constipation seems, in some cases, to depend directly upon the gastritis, and will disappear as this improves without the use of any laxatives. In the same way, there are diarrhœas which can be cured by treatment directed to the stomach.

Headache is often a symptom. It may follow a variety of types, but perhaps the most common is that which comes on at intervals.

A general loss of health, of which emaciation and loss of muscular strength are the most prominent features, is found with the worst cases of the disease. Inflammation of the tongue, and a variety of abnormal sensations referred to the throat, mouth, and tongue, belong to some of the cases.

These are the most marked symptoms, which may be referred directly to the gastritis. In the complicated cases, of which there are many, other symptoms are added, which it is not necessary to consider at the present time.

The course of the disease is naturally prolonged over many years, and interrupted by periods of improvement. The symptoms come on in attacks, at first not severe, nor of long duration; easily relieved in a variety of ways. As the disease continues, each succeeding year marks a greater severity and longer duration of the symptoms. In some of the patients, the disease never advances further than to make them uncomfortable during a part of each year. In others, the general health is disturbed, they are unable to work, and become miserable, chronic invalids. In others, the excessive pain drives them into the morphine habit, while in a few cases, the gastritis causes death.

TREATMENT.

In attempting to establish a satisfactory treatment for chronic gastritis, it is important to state as clearly as possible the problem which is to be solved.

First, then, we must remember that all the patients who suffer from gastric symptoms do not necessarily have chronic gastritis.

Besides those who have functional disturbance of the stomach, or cancer or ulcer of the stomach, we find many others in whom gastric symptoms are due to diseases of other parts of the body. Anæmia, uterine disease, the neurotic and hysterical condition, and constipation, often behave in this way. In old people, the function of gastric digestion is often impaired simply as the result of old age. To each one of these conditions belongs its appropriate treatment, but it is not the treatment of chronic gastritis.

Still further, we must remember that in many cases of gastritis, palliation of the symptoms is all that we can hope for. This is true with the gastritis associated with heart disease, emphysema, phthisis, cirrhosis, Bright's disease, gout, rheumatism, and alcoholism. It is also true of the cases in which the inflammation has gone on to the destruction of the septic and mucus glands. After excluding all these, there remains a large and important group of cases of chronic catarrhal gastritis, in which we may hope not only to alleviate the symptoms, but to cure the disease.

It is evident, from the nature of the disease, that any treatment intended not merely to palliate, but to cure, must be of long duration, and that it must be repeated from time to time, when the inevitable relapses occur.

The different plans of treatment, then, which may be adopted are :

The curative effects of climate and mode of life.

The regulation of the diet.

The administration of drugs.

The use of local applications directly to the inflamed membrane.

I. CLIMATE AND MODE OF LIFE.

These I believe to offer the most certain means of curing chronic gastritis. It is unnecessary to lay down rules as to the sort of climate, that can be regulated by the tastes of the patient. The two points of importance are : First, the locality selected must be one where the patient can lead an out-of-door life. Second, the patient must live in this climate either for several years, or for a considerable part of each year.

Excellent as this method of treatment is, it is evident that it can be carried out only by a limited number of persons.

II. THE DIET.

The regulation of the diet is a matter which demands consideration in every case of chronic gastritis. In trying to ascertain the best way of feeding these patients, I have found only one satisfactory method, and that is to feed them experimentally with different articles of food and then after an interval of several hours wash out the stomach and see how thoroughly these articles of food have been digested and removed from the stomach. After pursuing this course for a number of years, I have arrived at the following conclusions : —

It is necessary that the patient should be well fed, a starvation diet never answers.

The stomach does not require any rest from the performance of stomach digestion ; on the contrary, it is all the better for being called on to perform its natural functions.

The patients' own ideas as to what food agrees with them are usually erroneous. They are apt either to starve themselves or to select the least nutritious articles of food.

The use of artificially digested foods, or of substances such as pepsine to assist stomach digestion is unnecessary.

The starches, oatmeal, corn meal, bread, the cereals, the health foods are as a rule, bad. Portions of them remain undigested in the stomach for many hours.

Milk in adults is an uncertain article. It answers very well for some persons, not at all for others.

Meat is usually readily and well digested, but there are occasional exceptions to this rule.

Vegetables and fruits can be eaten, but the particular varieties must be selected experimentally for each patient.

I do not believe that any case of chronic gastritis is to be cured by diet alone. Even the exclusive milk diet, while it often relieves symptoms, is as a rule, only temporary in its effect, so that the patient simply loses a certain amount of time by employing this instead of more efficacious plans of treatment.

III. THE ADMINISTRATION OF DRUGS.

The advantageous use of drugs belongs to the earlier stages of chronic gastritis. At that time they often palliate symptoms and sometimes even seem to cure the inflammation. In the later stages of the disease their use becomes more and more unavailing. The reliable drugs for this purpose are not numerous : the preparations of soda, potash, and bismuth, the mineral acids, glycerine, sometimes carbolic acid, sometimes iodoform, sometimes the bitter infusions. If none of these answer, it is hardly worth while to look any further. If we can combine, with the administration of drugs, the regulation of the diet, and of the mode of life of the patient, then of course, our chances of success are much greater.

IV. THE USE OF LOCAL APPLICATIONS MADE DIRECTLY TO THE MUCOUS MEMBRANE OF THE STOMACH.

This I regard as the most efficacious plan of treatment for those patients who are not able to leave home and seek a proper climate, but ask to be relieved without interruption to their ordinary pursuits. The local applications are readily made by the introduction of a soft rubber tube thorough the œsophagus into the stomach.

Liquid applications are the best. They should be made in such quantities as to come thoroughly into contact with the entire surface of the mucus membrane, although the pyloric end of the stomach is the region where the inflammation is principally situated. They should be made at a time long enough after eating for the stomach to be as nearly empty as possible.

For many cases warm water alone in considerable quantities is the only local application needed. In some, however, there is an advantage in medicating the water, and for this purpose, I employ a variety of substances.

The alkalies, the mineral acids, bismuth, carbolic acid, the salicylates, iodoform, belladonna, ipecac,

gelseminum, may each one be employed according to the particular case.

For the first week it is often necessary to put the patient on a milk diet, and this can be done even with those patients, who under ordinary circumstances cannot take milk at all.

Then, after a time, to the milk we add one solid meal composed of meat alone. Next, this single meal is increased by the gradual addition of fruits, vegetables, and bread. Then comes the giving of two solid meals a day, instead of one, then three solid meals, and now we get rid of the milk in part or altogether.

For the first week of this treatment it is wise not to expect any special improvement. Indeed even a longer time than this may try the perseverance of the physician and the confidence of the patient.

Sooner or later, however, the expected improvement begins: the nausea and vomiting cease, the constipation or diarrhœa is improved; the flatulence is no longer troublesome; the headache becomes less frequent; and of more real value than these, the improvement in the general condition of the patient becomes evident. The color, the weight, the appetite, the sleep, the spirits of the patient, all show a change for the better. Of all the symptoms, the pain is the one which is apt to persist the longest.

For two or three months, the patient has to be kept under observation, and the applications to the stomach made by the physician. After this, the patient is dismissed, but continues the treatment himself, first every other day, then twice a week, then once a week for several months. The regular relapses of the disease are managed in the same way, but are much more quickly relieved.

I have tried thus succinctly to lay before you the characteristics of a common and important disease, and yet a disease which seems to me not to meet the recognition and attention which it demands. If I can secure for the patients who are made miserable by it, a more careful and intelligent management than they are now apt to receive, the purpose of this paper will be answered.

HOMŒOPATHY AS VIEWED BY A MEMBER OF THE MASSACHUSETTS MEDICAL SOCIETY.

A LECTURE DELIVERED APRIL 15, 1886, BEFORE THE HAHNEMANN SOCIETY OF THE BOSTON UNIVERSITY SCHOOL OF MEDICINE,

BY VINCENT Y. BOWDITCH, A.B., M.D., (HARV.),
President of Boylston Medical Society, 1884-5.

MR. PRESIDENT AND GENTLEMEN OF THE HAHNEMANN SOCIETY OF THE BOSTON UNIVERSITY: One year ago, Dr. Conrad Wesselhoeft kindly consented to give his views upon homœopathy to the members of the Boylston Medical Society of the Harvard Medical School,[1] and to-night I appear before you, at your polite request, to state my views upon the much-vexed question of the difference between the homœopathic form of practice as now known, and that of the "old" or "regular school."

In accepting your invitation, I did so with great hesitation, solely for the reason that I felt my knowledge of the subject in question was not sufficient to warrant me in giving my views in the form of a lecture.

As I should have been unwilling to seem ungracious to your Society by a refusal to speak before you, and having the earnest desire to do my part, however small, towards creating harmony in the rank and file of the medical profession after years of unfortunate and bitter feeling, I decided to accept the invitation, and to answer the questions which you have given me to the best of my ability.

I have thought it best to begin by answering and discussing your questions separately, and in the order in which they were given, leaving my general remarks upon the subject to the end of my paper.

Question I: "*What are the conditions under which it would be possible to construct a positive science of medicine?*"

Gentlemen, until we, as erring human beings, become possessed of supernatural powers, I maintain that the construction of a positive science of medicine is a thing devoutly to be wished for, but an absolute impossibility. When we have a perfect knowledge of the structure of the human body, of the exact function of every nerve, muscle, and other organ, and of their relations to disease; when we know the exact nature of every drug, of its effect upon the human frame, both in health and disease, and can surely trace every effect to a certain cause; finally, when we fully understand the part which personal idiosyncrasy plays in our treatment of disease, then, and then only, can we begin to hope to construct a positive science of medicine.

You may say to this: "Why, if we have such a discouraging outlook, is it worth while to strive at all to improve upon our present knowledge of medicine?" and I reply: "Because, in every path of life, we can strive, at least, for our ideal, however unattainable it may seem to our human minds." That it would be a wretched life indeed, if, in our endeavors to look for truth, we had no hope that we were doing our part, however slight, in the moral and intellectual progress of the world. Certainly, our only hope for approaching this ideal in medicine is to cultivate our powers of observation to the utmost; to watch our cases closely; to compare different forms of the same disease; to note and compare the results of our methods of treatment with those of others, always keeping in mind that, while we should give the powers of the imagination their due place, one well-established *fact* is worth a thousand *theories* in our study of disease.

Question II: "*What would your school do in a case where the symptoms were so varied that it was impossible to make a diagnosis?*"

In answering a question, involving, as this does, such an infinite variety of possible conditions, it is, of course, impossible to lay down an absolute law as to the method of treatment in cases of doubtful diagnosis, but I think it safe to say that at the outset, we should inquire into the condition of the various functions of the body, and, if not acting as they should, our treatment would first be directed towards restoring them to their normal condition, if possible. Having accomplished this, and yet finding no cessation, nor even amelioration, of the morbid symptoms, our only resource would be, to *wait*, while watching the case carefully for the advent of symptoms which would assist us in our diagnosis. At the same time, we might be, and frequently are, obliged to treat the case symptomatically, by which I do not mean that each and every symptom should be attacked, as it were, by a different remedy, but that certain symptoms which seem to threaten the safety of the patient should be alleviated as far as possible by whatever means seem best to us.

[1] A Lecture on Homœopathy before the members of the Boylston Medical Society of Harvard Medical School, by C. Wesselhoeft, M. D. Boston: Otis Clapp and Son. 1885.

To make myself more clear, possibly, let me use an example: A patient may be suffering from a variety of puzzling symptoms, and one of our first questions would probably be as to the condition of the alimentary canal; possibly we should find that there had been marked constipation, and our efforts would be directed towards clearing the bowels from obstructions, either by means of enemata, or by rapidly-acting, laxative medicines, provided there were no concomitant symptoms to contra-indicate any disturbance of the intestinal tract. Should we, moreover, after the removal of this possible cause of unusual symptoms, find, for example, excruciating headache persisting, our only course would be to alleviate, if possible, the suffering from this one symptom, and then wait for further developments. By my use of the pronoun "we," I have endeavored to express what would seem to me to be the opinion of the physicians with whom I am most thrown in contact, and yet from the very methods of teaching in our schools, there would be many, doubtless, who would differ from me, and to this point I shall refer later.

Question III: "*What are the arguments in favor of Polypharmacy by your school?*"

The wording of this question leads me to think that you are laboring under the mistake that the methods of prescription-writing of fifty years ago and of the present day are one and the same thing, and I hasten to assure you that this is by no means the case. Not that prescriptions are not very frequently written containing several ingredients still, but I think there is a growing tendency towards the use of single remedies, at the same time that the amount of dosing, although varying greatly with different physicians, has vastly decreased in less than half a century. As to the reason of these changes, I shall speak later. Certain it is, that the younger physicians of to-day hear little or nothing of the "adjuvans," the "corrigens," etc., various terms used so much in prescription-writing of former times, and look with amusement, not unmixed with horror, at the compounds which were poured down the poor sufferers' throats, while they wonder, indeed, that the mortality list was not even greater than recorded!

If arguments there be in favor of polypharmacy, they can easily be reduced to this, I think: That such combinations of drugs are recommended for use as have been shown by the experience of thousands of careful observers to have certain effects upon certain abnormal conditions of the human body.

Let us again take an example: In cases of chronic constipation, where there seems to be a lack of intestinal secretion and an atonic condition of the bowel, the combination of aloes, nux vomica, and sulphate of iron in pill form, has proved of infinite service where aloes alone seems to lose its power quickly, or to cause uncomfortable sensations.

Again, in cases of cardiac disease associated with dropsy, I think that no one who has used in such cases a simple combination of digitalis, colchicum seeds and bicarbonate of soda, a formula[2] now in use for several generations, can fail to be impressed with the beneficial effect of such a prescription. Neither can any one who has had much experience in dispensary or private practice doubt the efficacy, I will not say in all, but in the majority of cases of anæmia associated with mitral disease, of the combination of iron and digitalis either in pill or liquid form.

Bartholow constantly speaks of the "synergistic" action of some drug upon another, that is to say, the power which one drug has of increasing the action of another; for instance: alcohol increases the hypnotic effect of morphine; ipecac increases the sudorific action of opium, and the combination of bromide of sodium or potassium with chloral will often accomplish what is wished for, in smaller doses, too, than when either drug is used alone.

Quantities of instances like these could be given, but they will suffice to illustrate my meaning. I repeat, then, the arguments in favor of Polypharmacy when practised, are, that experience justifies us in concluding that a combination of drugs is often, not always by any means, more efficacious in combating disease than the use of one drug alone.

Question IV. "*In accordance with what principles does the 'old school' physician prescribe, and on what basis does he maintain that these principles are correct?*"

Gentlemen, I believe that I am correct in saying that no physician of the "regular" or "old school" is taught to practise by any set maxim, rule or principle, unless indeed it be said that to use the experience of others and ourselves, combined with as much common sense as it is our good fortune to possess *is* a principle.

Certain it is, that we believe the science of medicine cannot be reduced to mathematical exactness, and just so long as this is the case we believe it impossible to lay down an absolute law of medicine and say, "This rule is right; no other can be right, and by this rule must we practise." Possibly in the countless ages of the future as the human mind comes nearer and nearer to the state of the all-seeing and the all-knowing, what is now dark and unfathomable to our finite minds may be clear as day, and medical science may be upon a firmer basis than it now possibly can be. It is perhaps a discouraging and rather sad thought that in medical practice there is so much groping in the dark and so much scepticism as to the efficacy of our methods of treatment in many cases. Happy those who are always convinced of the useful power of their drugs and indulge themselves in the *post hoc propter hoc* argument, in the face of the more skeptical who say, "Could not this favorable result have occurred had nature been left to herself?"

From what I have just said you will know that the "regular" physician feels that he must rely largely upon the judgment and experience of those who, by their eminence in the profession to which they have devoted their lives and energies, have become immortalized, at the same time, by using his own powers of observation, endeavoring to avoid the danger of blindly following the beaten track. In so doing, he confines himself to no narrow limits by absolute belief in one or more maxims, be it the so-called principle of *contraria contrariis*, or *similia similibus*, or the power of infinitesimal doses of certain drugs: in short, he prescribes his medicines as far as possible in accordance with *experience*, experience based upon practical observations, or frequently upon the results of laboratory research in which theory has been substantiated by fact.

The term "empiricism," signifying a tendency to

[2] ℞ Pulv. Digitalis, ... gr. x.
Pulv. Colch. Sem. . . . . gr. xx.
Sodæ Bicarbonat. . . . . gr. xxx.
Ft. pil. no. xx.
S. One pill every three or four hours.

depend on personal experience alone in practice, was a term constantly hurled, and doubtless oftentimes with justice, at the opponents of Hahnemann. This charge is even now a favorite one among homœopathists in their criticisms of the "old school," but I have yet to be convinced that the former are free from this fault which they complain of in others, when I read certain portions of homœopathic literature.

Gentlemen, we are all of necessity "empirics" to a greater or less degree, and that any one of us should be accused of depending too much upon personal experience alone, is a fault, I believe, more of the individual than of the "school of medicine" to which he may profess to belong.

Let it not be supposed that the "old school" physician (using the term merely as a distinguishing mark from those who profess to adhere to a certain rule or set of rules in their practice) feels himself compelled to accept blindly the theories and suggestions of those whose opinions he respects, and act upon them regardless of his own results. The intelligent practitioner condemns the unimaginative, short-sighted methods of those who allow the existence of nothing beyond the reach of their special senses and who persistently make use of certain prescribed regulations, regardless of the personal idiosyncrasy of the patient and of the other innumerable reasons for making each case a special study. He considers himself justified, moreover, when prescribing, in experimenting, within reasonable limits, in whatever way shall seem best to him; above all, he considers that his methods of practice are directed towards assisting Nature in her efforts to resist disease.

Question V. "To what doctrine of Homœopathy does the 'regular school' most object? Why are the doctrines of Homœopathy more strenuously opposed by the 'old school' than the widely varying theories constantly presented by physicians of that school?"

In answering the first part of your question, one is embarrassed by the fact that he finds there is dissension in the ranks of homœopathists as to what maxims should be rigidly adhered to in their practice. Your critic says that he cannot possibly believe that an infinitesimal part of a grain of table salt can have the slightest effect, salutary or deleterious, upon any one, and he is confronted with the statement that such ideas have long since been exploded. Again he finds that while one homœopathist believes that there is no curative power in the fraction of a grain of some drug, beyond the tenth dilution, yet there are others who seem to have implicit faith in the salutary effect of a grain of the same substance carried to the thirtieth dilution and even higher, to say nothing of the great originator of Homœopathy, Hahnemann himself, who stated that no dose could be made too small, on the ground that, by means of proper distribution or dilution, the power or "virtue" of the drug used, increases in an inverse ratio to the smallness of the dose.

These and other differences of opinion among members of a sect in medicine who profess unbounded faith in certain set formulas for practice, must necessarily, I think you will in justice admit, bring doubt into the minds of those who look on, not only as to the infallibility of the homœopathic doctrines, which perhaps the more reasonable of your school do not claim, but also as to the great difference which the homœopaths still insist exists between their methods and those of a vast number of practitioners who acknowledge implicit allegiance to no sect or school of medicine.

For the sake of argument, however, let us suppose that every homœopathist adheres strictly to the teachings of his school, namely, the giving of simple remedies, the use of small doses, the so-called law "similia similibus curantur," and the "proving" of drugs, and I can then perhaps show you to which one of these rules the "regular school" most strenuously objects.

As to the first maxim, the giving of simple remedies, I have already said that the tendency to use single drugs, although by no means universal, is much more marked than in the practice of a generation ago, and certainly the prejudice among physicians of the present day against giving long prescriptions, is increasing; therefore this may be said to be the least objectionable of the homœopathic doctrines.

The use of small doses. Although I believe you are taught in this school that any dilution beyond the tenth is useless, you will acknowledge that there are those holding a high position among homœopathists who profess implicit faith in the curative power of drugs carried to a much higher degree of dilution than what you consider the limit, and I therefore am justified in classing them together.

Certain it is, that however skeptical many of us may be as to the curative power of any drug whether given in large or small doses, the effect of which has not been unquestionably proved, our skepticism is not lessened when we hear of the beneficial results obtained from the use of the quintillionth, the billionth, the millionth, or even the one one-hundred thousandth of a grain of some substance, and we consider that homœopathy has not yet shown by its results, facts which warrant its claim to more favorable results than what Nature could have accomplished when assisted merely by proper hygienic and dietetic care.

We believe that the homœopath, by what we deem extravagant claims on this point, is constantly falling into the error, to which to be sure we are all more or less liable, of arguing that because improvement *follows* the administration of a drug, it is therefore *in consequence of* that drug, an assumption which seems to us most unwarrantable in the vast majority of cases which experience has taught us would recover without any treatment at all.

To the implicit faith in the doctrine *similia similibus curantur* as a universal law (implying as it does, a treatment founded upon observance of symptoms only, regardless of their cause), I think I can safely say the regular physician objects more strongly than to any other of the homœopathic maxims.

That some drugs which cause certain symptoms will oftentimes check or cure similar symptoms arising from another cause is a fact not discovered by Hahnemann but acknowledged many years before his day. Ipecac, in certain doses, has for ages been known as a valuable emetic, and at the same time, its power of checking some forms of emesis is equally well-recognized. The same may be said of rhubarb which in large doses acts as a purgative, but is often used in small doses in intestinal catarrh with marked benefit. Other drugs could be mentioned, but these will suffice to show that "old school" physicians all recognize this apparently peculiar characteristic of some substances, but at the same time feel that the homœopathists have gone too far and are not justified by experience as yet, in asserting they have discovered some mysterious law of Nature which governs the whole domain of medicine, because certain drugs possess

qualities which are perhaps not explained to our entire satisfaction. They believe, moreover, that the claim of the homœopaths that *symptoms* must be treated without regard to the *cause* of the disease (a method which seems to be fostered by implicit faith in the *similia similibus* doctrine and by the "provings" of drugs) is, if strictly adhered to, a dangerous source of error, even were it possible for every physician to practice in exact accordance with the classified "provings" of your text-books. When he considers the important part which personal idiosyncrasy plays, to say nothing of the innumerable outside influences which may cause a difference in any two "groups of symptoms," the "old school" physician feels that the man who places implicit reliance upon this method of treatment is walking upon most uncertain ground, and is in danger of being carried farther astray than he who at the outset searches for the *source* of the disease, while closely watching, and relieving if need be, special symptoms.

In the second part of Question V, namely,— "Why are the doctrines of Homœopathy more strenuously opposed by the "old school" than the widely varying theories constantly presented by physicians of that school?" you strike the key-note of the whole controversy, and in my answer I shall endeavor, instead of discussing details as to the difference between any two "schools of medicine" to give the chief reason for the opposition shown by the "old school" to the homœopaths since Hahnemann first claimed that he had found the new and only method of the art of healing.

Gentlemen, the "regular" physician takes this ground in his argument, and I believe it to be the broadest, the safest, and the most honest of all. He claims that medical science is not in a condition to warrant any man in professing to adhere to any school of medicine, or to any set formulas for practice; in short, to justify him in classing himself in any other than the great body of physicians who devote their lives to the advancement of medical science, who practise as reason, judgment, and experience shall dictate, with minds ever ready to seize upon whatever seems to denote progress in their profession, while contenting themselves with the unpretending name of "physician," a term which gives the educated medical practitioner the liberty to practise as seems best to him, and relieves him from the imputation of sailing under false colors, and of not practising what he preaches — an ideal picture, it may be said, and one, alas! which, owing to the faults common to us all as human beings, is rarely met with, but it, at least, expresses the standard of the "regular" physician, however far short he may fall of what he aspires to be.

I hear you say, "But you call yourself an allœopathist," and I reply, "By no means." The term is one given by Hahnemann to those of the "old school" who opposed his ideas, and in thus making two separate sets or schools of medicine. I consider that both Hahnemann and his adherents have done much harm by creating false ideas in the minds of the laity, who, in their ignorance of medical science, have been taught to consider the name of "allœopath" as synonymous with heroic treatment, and that of "homœopath" as always implying the use of small doses, and methods of treatment utterly at variance with that of "regular" physicians; statements not in keeping with facts, as can be proved day after day in the practice of any physician of even moderate experience.

Unfortunately for our cause, there are those in the "regular" profession, who, although strongly opposed to the adoption of any name other than that of "physician," in their wish not to be entitled "homœopathists," have carelessly allowed themselves to be called "allœopaths," and thus have done their part in creating confusion in the minds of the laity, among whom, unfortunately, the war is waged as furiously as in the ranks of the medical profession itself.

I trust that I have now made it clear to you, gentlemen, that the "regular school" object not so much to the "doctrines of homœopathy," as to the fact that homœopathists, as a class, profess adherence to certain methods of practice, and, you will excuse me if I say it, *do not practise always in accordance with those methods by any means*, the laity being, at the same time, misled with the idea that they are being treated homœopathically. Gentlemen, can you, in viewing the case impartially, think it strange or unjust that the "regular" physician feels indignant, when, upon being told by some one that he has been treated homœopathically, he finds, upon strict inquiry, that substances have been given in doses quite in accordance with ordinary "regular" practice? Can you blame him, when he hears that the "leading homœopathist" of a large city in a neighboring State is giving cod-liver oil and quinine, three times a day, to the child of a lady who "has implicit faith in homœopathy"— can you blame him, I say, when he accuses such a man of sailing under false colors; or again, how can he be expected to believe that there is such a vast difference between the homœopathic and "regular" methods, when he hears that the leading homœopathist of a large town in this State, treats a case of chronic pleuritic effusion with arsenicum, in doses equal to one drop of Fowler's solution, with glycerine jackets applied to the affected side, and with stimulants, the previous treatment under a "regular" physician having been three drops of Fowler's solution three times a day, and iodine applied to the side; or can he think that the homœopathic physician is adhering strictly to his principles, when, later in the same case, he alternates different medicines in the same day, rarely adhering to the same drugs for two days in succession, at the same time, making the patient take draughts of porter at meal time, sufficient to make her leave the table with a dizzy head?

Can you, I ask, wonder that we feel such practice is not fair? I could weary you with accounts of similar cases, but I desist. Perhaps, too, you may think me unjust in citing individual cases, but, gentlemen, how else are we to judge, except by taking individual cases in the practice of men apparently held in high estimation by their own colleagues, and comparing them with our own methods, to see wherein the difference consists.

Your esteemed Professor, in his address to the Boylston Society last year, makes use of this expression: "To say that a homœopath should not use an allœopathic means of treatment, or that an allœopath should, on no account, use a homœopathic remedy, is as absurd as to say that a blacksmith must, on no account, use a watchmaker's file, etc." I beg he will not consider me discourteous if I say that I deem such a sentence most misleading to those who do not understand the real cause of the controversy between the homœopaths and the "regulars." From the very wording of the sentence, he makes it appear that we

are not allowed to use drugs in doses otherwise than as we have been taught from time immemorial, which is not at all the case.

We are bound to nothing, and are at liberty to use any drug in whatsoever dose we please, when experience has proved to us its beneficial action, the only provision being (I repeat it, to impress it upon you), that we take no name other than that of "physician." Thus, if convinced of its usefulness, we may use the one one-hundred-thousandth of a grain, nay, the one-millionth of a grain of any drug, if we wish, and yet no one can rightly accuse us of sailing under false colors if we do not class ourselves with one sect of special name. Can you, looking at the matter impartially, deny that this is the broader and safer ground to stand upon?

As proof of what I have said, look at the practice of any two "regular" physicians. Their theories and their methods of treatment may differ widely. Where one may believe that the less medicine given the patient, the better, another may have that implicit faith in drugs which makes him pour them down the patient's throat *ad nauseam*, and yet neither of these men is accused by others of their profession of practising otherwise than legitimately.

In thus discussing your question, gentlemen, I trust I may have expressed clearly to you what I consider the chief point of controversy between the two parties.

(To be continued.)

Original Article.

GYNÆCOLOGICAL HINTS AND HOBBIES.[1]

BY W. SYMINGTON BROWN, M.D., OF STONEHAM, MASS.

THE first time that I saw a vaginal speculum used was at the Glasgow Lock Hospital, in the summer of 1841. The patient was a young prostitute. I happen to recollect the case from the circumstance that the edges of the instrument (it was a clumsy, home-made bivalve) were so sharp that its insertion caused the mucous membrane to bleed, and I took it to the cutler's shop next day to get its edges rounded.

About one year later I was present at an operation for procidentia uteri, performed in the Glasgow Royal Infirmary, where the surgeon, after replacing the womb as well as he could, scared the vaginal walls with a red-hot iron, for the purpose of producing permanent adhesion and contraction. That was the best he could do for the poor woman; and, no doubt, he thought he had done pretty well.

We all know what giant strides gynæcology has taken since 1842. It would only be a waste of your time and mine to try to enumerate them. What I propose in this paper, is to pass in review a few of the more prominent hobbies which have been ridden during the last thirty years, including an epitome of the available hints picked up in the same period. I can safely promise that the later part will not tire you by its length. Louis Agassiz is said to have remarked that he had only made two discoveries during his whole scientific career, and they could both be comprised in less than half a page.

As an aid to memory, I am in the habit, when possible, of classifying my notes under four heads, and that arrangement will suit my purpose to-night. During the last thirty years we have had, in gynæcology:

I. An Era of Cervical Ulceration.
II. One of Displacements.
III. A Surgical Era.
IV. A Constitutional Era.

I do not use the word hobby in an invidious sense, I simply mean that certain men give undue prominence to one particular symptom, and attach more importance to it than it deserves. We are all guilty of doing this occasionally. We have each our likes and dislikes, some of which would often puzzle us to give a good and sufficient reason for. When the hobby masters us, then it becomes tyrannical and mischievous. It is plainly our duty to examine facts as we find them, to be fair and candid in our interpretation of them, and not try to twist them into line with our preconceived ideas,— in a word, to recollect our fallibility. Oliver Cromwell hit the nail on the head when he said to an assembly of Scotch clergymen, "I beseech you, brethren, by the mercies of God, conceive it possible that you may be mistaken." The chronic hobbyist is never mistaken: he is like the lady Franklin met in Paris, who said "I do not know how it happens, but I meet with nobody, *except myself*, that is always in the right.

I. CERVICAL ULCERATION.

Dr. James Henry Bennett, who may justly claim to be the prophet of this era, says, "I have endeavored to demonstrate the important fact that inflammation is the keystone to uterine pathology." He went much further and attempted to prove that ulceration of the cervical mucous membrane was the keystone, and caustics the remedy. This theory possessed the advantage of extreme simplicity. Nearly all needed to carry it out in practice was a glass speculum, a stick of lunar caustic and unlimited confidence: so its followers soon became numerous. Its founder was not an ignoramus; far from it. He had "the courage of his convictions," and did more than any other practitioner of his day to help forward gynæcology by insisting on the propriety of and absolute necessity for a thorough examination. He rode a hobby, it is true, but he rode it right manfully. It is also true, as he alleged, that mucous membranes all over the body, are much more liable to inflammation than serous membranes or parenchyma.

After all, however, it is difficult at present to realize that so fierce a war was waged about so small a matter as the difference between abrasion and ulceration. Dr. Macleod says, "The terms desquamation, or excoriation, or abrasion, are applied to the removal of epithelium alone, while ulceration implies a deeper penetration of the destructive action." If we accept this definition, and it seems a fair one, we would feel inclined to side with Dr. Robert Lee, who totally denied the occurrence of ulceration. Certainly the non-specific "ulcers" we find on the cervix uteri are very seldom, if ever, like ulcers on the leg or any part of the skin; they are abrasions, and do not eat into the deep tissues under the epithelium. The result is that iodine and dilute carbolic acid have taken the place of nitrate of silver, which latter salt, though generally set down by modern surgeons as only an astringent, has caused considerable mischief in the shape of pinhole os uteri. I am not at all sorry, therefore, that it has been laid on the shelf. The hot douche, scarifications, medicated

[1] Read before the Section of Obstetrics and Gynæcology of the Suffolk District Medical Society, March 17, 1886.

woolen pessaries, and glycerine are much better agents to allay inflammation.

II. DISPLACEMENTS.

In one sense, we might assert that the uterus has *no* permanent location. It is a sort of vagabond. When we define its position as lying between the bladder and rectum we are as precise as the facts warrant us; and indeed, under certain circumstances both of normal and abnormal development, the great bulk of the organ is not to be found even there. The truth is that the womb is prëeminently a mobile organ, shifting its position almost every hour of the day, according to the condition of the bladder, rectum and small intestines.

Dr. Graily Hewitt in England, and the late Prof. Hodge in this country, are authorities in all that relates to uterine displacements. I have carefully read and re-read their books; and the conclusion I have arrived at is, that on no other medical subject has there been so much cry and so little wool. Dr. Hewitt, in particular, is the ideal hobbyist. I think if he were to meet with a huge fibroid, his first idea would not centre so much on the nature of the tumor as on the degree of displacement. According to him, nearly all the ills that woman is heir to, depend on malposition. His argument has always appeared to me like an inverted pyramid, which I would like to reverse; for, according to my notion, very few of those ills depend on displacements. In fact, I only know of two,—prolapsus and retroversion — which produce much mischief. Flexions and anteversions occasionally exist, but the proof that they always cause dysmenorrhœa or other discomforts are lacking, and the major part of the symptoms attributed to these malpositions might fairly be classed as doubtful.

I think, however, there need be little doubt that pessaries are chargeable with hurting more patients than they help. This is especially true of those instruments which are connected with an external support, such as Cutter's, for the reason that what they attempt to achieve, namely, to fix the uterus in a certain position, is itself unnatural. The womb is normally movable, very much so. If we attempt to limit its mobility by external supports, intra-uterine stems, or otherwise, we violate the cardinal principle of its being. Indeed, many of the most serious uterine diseases depend mainly on the circumstance that they fix the womb in one position; and whether it be imprisoned by adhesions, deposits, contraction of ligaments, or a pessary, the result is the same, congestion and hypertrophy.

I hope no one will infer from this that I am opposed to pessaries *per se*. I am not. I believe that they have a limited range of usefulness, as temporary expedients, but, like opium and alcohol, they are edge tools, capable of turning out either a blessing or a curse, according to the way we handle them. With the exception of procidentia (which is really a sort of hernia, and the pessary acts as a truss) I believe that all pessaries which benefit the patient, whatever their form or material, act in one and the same way, namely, by supporting the uterus, and allowing its ligaments to recover their tone. To do this, the contrivance must itself be movable and easily removed by the patient. A pledget of fine iodized wool, changed daily, fulfils these requirements. The next best material is a block-tin ring, which can be shaped by the surgeon's fingers at the bedside, and is strong enough to retain that shape while lying in the vagina.

III. SURGICAL.

The surgical era may be fitly represented by Sir Spencer Wells and the late Sir James Simpson in Great Britain, and Dr. Thomas Addis Emmet and the late Dr. Sims, in America.

Surgery possesses one advantage over medicine: it is more palpable, so that its mistakes and shortcomings are easier detected. But surgery is not entirely free from hobbies, even in its highest sphere of triumphs. Take ovariotomy, for example: more than any other modern operation, it has passed through the severest fire of criticism, and has come out purified, glorious. One might feel disposed to think that there was scarcely any room for hobbies here. The "sober, second thought" of most experienced operators had arrived at the conclusion that it was best to wait till the disease had begun to make its mark on the general health before operating. Recently, however, we see the doctrine advocated, that it is better to operate at once, at least, as soon as we are sure of our diagnosis. Talented men, like Dr. Bantock, of London, not only urge this plea, but put it in practice. I believe that these surgeons are wrong, and, unconsciously, are riding a dangerous hobby.

A single case in my own practice will illustrate what I mean. Eleven years ago, in examining a patient, I detected an ovarian tumor not larger then a hen's egg. One year later, it had increased to the size of a newborn infant's head, and Dr. Chadwick, who saw her in consultation, concurred in the diagnosis. Six months ago, when last examined, the tumor had attained the size of an adult head. During the last eight years, the principal inconvenience suffered is prolapsus uteri, for which she wore a doughnut pessary for a long time, but at present she only wears a T-bandage. The question arises, was it our duty to have advised the removal of this tumor? I think not. Even with the encouragement offered by the marvellous success following ovariotomy (due, as some think, to Listerism, and others, to cleanliness and acquired dexterity), the most sanguine surgeon must admit that there is *some* risk of life attendant upon it. On such occasions, I say to myself, If this woman were your sister or daughter, would you operate? I freely admit that most surgical failures are fairly chargeable to delay, but such a case as this seems to me to be the exception, which proves the rule. One of the heaviest burdens a surgeon must bear, is the sense of personal responsibility, coupled with the conviction that after he has done his best, the result is so often doubtful.

Professor Simpson popularized the practice of slitting up the cervix uteri to cure dysmenorrhœa, sterility, etc. The malformations intended to be remedied by this heroic method are now known to be nearly all congenital, and the treatment has become obsolete. In our day, it is the fashion to sew up lacerations of the cervix — a more rational practice.

Dr. Marion J. Sims did more than any other surgeon in this country to ring the changes on "Uterine Surgery." His book with that title reads like a romance, and, in fact, is one. For, as Dr. Van de Warker, in his eulogy, has pointed out, Marian J. Sims was a poet, as well as a surgeon, and labored untiringly to carry out his surgical ideas from an innate love of truth, rather than from greed of fame or

money. He lifted vesicovaginal fistula out of the Slough of Despond, and gave us a speculum which will never be superseded. He rode no grovelling hobbies.

Perhaps there is no instrument used in gynæcology which has furnished so large a field for hobby-riding as the invention of specula. If cutlers would only agree to designate them by numbers — say from 1 to 1,000 — instead of the inventors' names, the evil would be lessened; but I cannot agree with Mr. Lawson Tait, in a recent New York address, who proposes to abolish both speculum and uterine sound. One may ride a negative, as well as a positive hobby.

IV. CONSTITUTIONAL.

Nearly a century ago, John Abernethy pointed out the great importance of constitutional treatment in surgical diseases. He wrote a famous book on the subject, and the medical wits of that day used to say that Abernethy charged his wealthy patients a guinea for advising them to buy his book! Dr. Fordyce Barker and Dr. S. Weir Mitchell are worthy successors of the great London surgeon. But it is not every one who can afford to pay one hundred dollars per week for board and treatment; and, fortunately, every patient does not require to be put through the course of training which Dr. Mitchell enforces. Our own Dr. Field, of Newton, Mass., has also devoted a great deal of time to the elucidation of this question.

One reason why women need constitutional as much, if not more, than local treatment, is because uterine diseases are generally of an insidious, bearable nature; and, partly from false delicacy, women do not apply for assistance until the whole system has become more or less affected.

Leucorrhœa — the commonest of all female complaints — often depends on constitutional disorder or disease, and does not become local until the continuous maceration of the cervical and vaginal tissues results in abrasion, puffiness, or something worse. If we cure the abrasion, often called ulceration, we have not cured the real disease, which may depend on indigestion, imperfect aeration of the blood, starvation of ganglia, kidney disease, or some other trouble.

In young girls, amenorrhœa may follow excessive mental application at school; and the remedies would not be an intra-uterine pessary or emmenagogues, but less brain work, pure air, bathing, and gentle out-door exercise. I see such cases nearly every month.

In married women, who have borne children, one of the commonest conditions we meet with is a torpid liver, complicated with constipation. I know that the liver has long acted as a sort of scapegoat to carry off the physical sins of the people, both masculine and femine; and prominent physicians like Dr. Matthews Duncan, deny that it is so often guilty of producing or aggravating disease as it is accused of. The influence of mercury as a cholagogue has been called in question too, by recent experimenters. But I also know that I have administered hepatic pills to that class of patients with the best results. They are more alterative than laxative. If the constipation depends on retroflexion, of course that must be attended to. Ordinarily I depend on diet, massage, force of habit, and enemata, to relieve constipation. But the physician's *bête noir* lurks in the nervous system. We call it hysteria, neurasthenia, or something else, according to the prevailing fashion. As a general rule, the uterus has but little to do with it. We occasionally meet with similar symptoms in men. Hysteria attacks women more frequently than men, because the former are naturally more exposed to nervous perturbation, are more emotional, and the weaker vessel founders.

The real origin lies in the present phase of civilization — a crazy competitive race, with disease for prizes, and death for the paymaster. Our so-called civilization is the rank soil which raises so copious a crop of faith curers, homœopathic jugglers, wholesale lying druggists, and reprobate doctors, all riding one hobby — Money! But this, I fear, is forbidden ground. We must "learn to labor and to wait."

Pharmaceutical Memoranda.

LANOLIN.

BY B. F. DAVENPORT, M.D.

UNDER the name of Lanolin, Prof. Liebreich, of Berlin, has recently introduced as a base for ointments, etc., the fat obtained from sheep's wool. This substance is one of the so-called cholesterin fats which are formed in the animal keratin tissues. It is much more completely and rapidly absorbed by the skin than the ordinary glycerine fats, or the paraffine. The preparation is an emulsified form of suet, or crude wool fat. It is perfectly neutral, difficult to saponify, and has not a tendency to become rancid. Its capacity for absorbing water is so great that it works up with over its own weight of it, forming there with a plastic cream-like mass. It combines freely with glycerine, forming with it an excellent basis for ointments, pomatums and cosmetic purposes. It is so rapidly absorbed by the skin as to form a very efficient means of administering remedies. A mercuric chloride ointment made up with it containing but one-thousandth of one per cent., induces the characteristic metallic taste in the mouth within a few minutes after its application upon the skin of any part of the body, and if containing ten per cent. potassium iodine, the presence of iodine in the urine can be shown in from a half to three-quarters of an hour, and after several applications it will continue to be eliminated for about a fortnight. Lanolin was used by the ancients, being mentioned by Herodotus, Pliny and Aristophales. Under the name of Œsypum it was mentioned in the Florentine Pharmacœpia of 1560. — *Pharm. Rundschan.*

Reports of Societies.

MASSACHUSETTS MEDICAL SOCIETY.

COUNCILLORS' MEETING.

THE annual meeting of the Council was held at the Medical Library, Boston, on the evening of Tuesday, June 8, 1886. One hundred and seven Councillors were present. The meeting was called to order by PRESIDENT HOMANS at seven o'clock.

After the reading of the record of the previous meeting by the Secretary, and its acceptance, the roll of those composing the Council for the year 1886–87 was read. The Secretary announced the names of

seventy-eight Fellows who had been admitted during the year, and of thirty-one who had died.

FINANCES.

The Treasurer's report showed the year's receipts — including a balance of $1,710.73 from the previous year's accounts — to be $10,452.40. The disbursements amounted to $8,685.03, leaving a balance of $1,767.37. The invested funds of the Society amount, as in the previous year, to $32,420.17. The Society now bears upon its catalogue the names of 1,605 members.

In accordance with the recommendation of the Committee on Finances, reporting through DR. MINOT, it was voted that $1,000.00 of the balance remaining in the treasury be distributed among the District Societies.

REPORTS OF COMMITTEES.

DR. AYER, for the Committee on Membership and Resignations, reported a list of names of those desiring to become retired members, and of those wishing to resign. The Council voted in accordance with the recommendations of the committee.

DR. SHATTUCK reported for the Committee on Publications, and DR. PRESBREY, for the Committee on the By-Laws of the District Societies.

The Committee on Medical Diplomas reported through DR. RICHARDSON, and recommended a revised list of Medical Colleges whose diplomas are recognized for admission to the Society. It was voted to accept the Committee's report and to adopt the list as recommended.

DR. GEORGE B. SHATTUCK, Chairman of the Legislative Committee on the State Board of Health, Lunacy and Charity, presented the following report:

At a meeting of the Council of the Society, held June 9th, 1885, a Committee of five (subsequently enlarged to six) was appointed for the purpose of influencing Legislative action in favor of the abolition of the existing State Board of Health, Lunacy and Charity, and of the reëstablishment of a separate and independent State Board of Health.

You will remember the unfortunate spectacle presented a year ago at this time by the late Board of Health, Lunacy and Charity. It is unnecessary to more than allude to it. You will also remember that at that time Dr. H. P. Walcott, chairman of the health department, had not received a reappointment to the Board, from the Governor of the State upon the expiration of his term of service, and the explanation given was the impossibility of maintaining harmony if he were a member of that Board to which harmony had, in truth, long been a stranger. You will remember the cordiality with which Dr. Walcott's name was received when the Anniversary Chairman called upon him to speak to the Society at its last annual dinner. If you recall these things you will remember the position of this question a year ago.

Since then your committee has labored zealously in the field assigned to it by you. A circular letter, under date of December 21st, 1885, accompanied by a statement reprinted from the *Boston Medical and Surgical Journal*, was sent through the Society's Secretary to every member, calling attention to the desirability of a separate Board of Health, and suggesting that personal influence be used with Senators and Representatives to further that end. In the same way a copy of the *Boston Herald*, in which the inefficiency and imperfections of the conjoined board were clearly shown, was sent to every member of both houses of the Legislature. The importance of the appointment from both houses on the Public Health Committee of capable men, who would interest themselves in the subject, was carefully dwelt upon in the proper quarters. The Governor in his message to the Legislature strongly recommended the separation of the health department from lunacy and charity. Petitions from various towns in the State were sent to the Legislature.

The subject was promptly referred to the Committee on Public Health, on the assembling of the Legislature, and not to the Committee on Charities.

Your committee appointed a sub-committee, consisting of Drs. A. H. Johnson, S. D. Presbrey and Emerson Warner to represent the Society at the hearing before the Public Health Committee of the Legislature. The two first named (accompanied by the chairman of your committee) were present at the hearing, and addressed the Public Health Committee. With the assistance of Mr. T. H. Tyndale (the lawyer who drafted the Medical Examiner's Bill) who gratuitously offered his time and counsel, and the employment of a young lawyer for a day or two to verify references, of which there were a large number, your committee was finally enabled to submit a draft of a bill to establish a State Board of Health (copy submitted) which eventually secured a unanimous and favorable report.

After some delay in the Committee on Appropriations in the lower house, brought about, it was thought, by homœopathic influences, the act was passed toward the end of March and became law; and the State of Massachusetts again had an independent Board of Health, which merely awaited the appointment by the Governor, of seven members.

The appointments were made, and confirmed immediately by the Council, Wednesday, June 19th, Dr. H. P. Walcott being appointed to the long term of seven years. Dr. F. W. Draper, another member of the Society, is also on the board. Dr. E. U. Jones, chairman of the Taunton Board of Health, represents the homœopathic taxpayers, some of whom were very eager that there should be such representation. Your committee was of the opinion that a Board to which such varied problems as the adulteration of food and drugs, the purity of water supplies and disposal of sewage, the presence of poisons in wall papers and textile fabrics, etc., are, or are likely to be, referred, should not be composed wholly, or even largely, of medical men. It is of the opinion that the presence upon a State Board of Health of a civil engineer, of a lawyer, of a manufacturer, of a man of business should strengthen the Board among all classes of the community, and encourage the Legislature to refer to such a Board many questions of vital importance but coming intimately within the province of men who have paid no attention to State or preventive medicine as such. Your committee believes that the Board, as now organized and made up by the Governor's appointments, will prove a strong and efficient body, and will be of service to the State.

In reciting the incidents which have led to the present happy conclusion, your committee does not desire to claim any undue credit to itself for the results accomplished, or in fact any other credit than that of doing at any cost of time or trouble what was necessary to be done or what seemed likely to con-

tribute to a successful conclusion. It is well aware that several circumstances conspired to secure the result reported; the behavior of the Board of Health, Lunacy and Charity, itself did much, and the recommendation and countenance of the Executive did still more to favor the cause which your committee had at heart.

Dr. J. M. Harlow, of Woburn, having been appointed as Senator from Middlesex chairman of the Public Health Committee of the Legislature, was unable to act with your committee after the assembling of the Legislature; but this was, probably, not an unmixed misfortune, for his sound common sense and keen political insight and experience were placed where they could do the most good. He was always ready to make or receive suggestions, and his services to the cause of public health in this State, in this and other matters, this year demand your recognition.

The committee desires again to express its obligations to Mr. T. H. Tyndale for gratuitous legal advice and assistance. The committee presents an itemized account of its expenses (the total amounting to $51.66), and begs to be discharged.

GEORGE B. SHATTUCK, *Chairman.*
R. L. HODGDON.
A. H. JOHNSON.
SILAS D. PRESBREY.
EMERSON WARNER.

Voted: To accept the report of the Committee.

Voted: That the thanks of the Councillors be presented to the Committee and also to Mr. T. H. Tyndale for their efficient services.

The Librarian, Dr. BRIGHAM, made a very full and satisfactory report of the duties pertaining to his office. The report was accepted.

ELECTION OF OFFICERS.

The Committee on Nominations reported the following list of candidates for the offices of the Society for the ensuing year, and the same were elected by ballot: Dr. Thomas H. Gage, of Worcester, President; Dr. John M. Harlow, of Woburn, Vice-president; Dr. Frank W. Draper, of Boston, Treasurer; Dr. Charles W. Swan, of Boston, Corresponding Secretary; Dr. Francis W. Goss, of Roxbury, Recording Secretary; Dr. Edwin H. Brigham, of Boston, Librarian.

Dr. George J. Townsend, of South Natick, was chosen Orator, and Dr. William L. Richardson, of Boston, Anniversary Chairman for the next annual meeting.

THE NEXT MEETING.

It was voted that the next annual meeting be held in Boston on the second Wednesday of June, 1887.

APPOINTMENT OF COMMITTEES.

The President nominated, and the following were appointed to constitute, the standing committees:

Of Arrangements.— C. H. Williams, F. H. Hooper, J. B. Swift, H. C. Ernst, W. W. Gannett, O. K. Newell.

On Publications. — G. C. Shattuck, R. M. Hodges, B. E. Cotting.

On Membership and Finances.— F. Minot, B. S. Shaw, D. W. Cheever, J. Stedman, E. G. Cutler.

To Procure Scientific Papers.— C. W. Swan, G. S. Stebbins, J. R. Chadwick, R. H. Fitz, H. P. Walcott.

On Ethics and Discipline.— G. J. Townsend, G. E. Francis, A. H. Johnson, C. Howe, F. C. Shattuck.

On Medical Diplomas.— W. L. Richardson, A. H. Cowdrey, E. J. Forster.

In the appointment of Committees a change in the By-Laws has resulted in the combination of the Committee on Membership and Resignations and on Finances into one committee, namely, on Membership and Finances.

In the retirement of Dr. James Ayer from the Committee on Membership it was voted that the thanks of the Councillors be presented to Dr. Ayer for the skill and assiduity which he has shown for many years as Chairman of the Committee on Membership and Resignations.

Dr. Swan, Chairman of the Committee to Procure Scientific Papers, presented the following, which was adopted:

Voted: That the vote of the Councillors passed February 3, 1875, establishing the office of Reporter in each District Society, and defining his duties and those of the Committee on Scientific Papers in connection therewith be rescinded, and the office of Reporter hereby abolished.

SUFFOLK DISTRICT MEDICAL SOCIETY.
SECTION OF OBSTETRICS AND GYNÆCOLOGY.

ROBERT B. DIXON, M.D., SECRETARY.

MARCH 17, 1886, DR. JAMES R. CHADWICK in the chair.

DR. W. SYMINGTON BROWN read a paper entitled:

GYNÆCOLOGICAL HINTS AND HOBBIES.[1]

DR. FIFIELD said that the listening to Dr. Brown's paper was like the passing of a panorama. Regarding the era of ulceration of mucous membranes of the os uteri, mentioned by Dr. Brown as belonging to Dr. Bennett, of Edinburgh, the speaker thought that Dr. Miller, of Dorchester, now dead, could have contested the right to it. Dr. Miller read Dr. Bennett's book, and the next day began the practice of gynæcology. Bennett discovered *ulceration* of the os uteri, but it belonged to Miller to discover the os uteri *about* to ulcerate. The speaker related an anecdote in this connection. Dr. Stetson, of Quincy, had a patient to whom Dr. Miller was called, without the former's knowledge. The patient next day told Dr. Stetson that Dr. Miller had said that there was ulceration of the os uteri. Stetson having sought in vain for the ulcerative process, called upon Dr. Miller for an explanation. The latter, however, was not at home, but his whereabouts being learned, Dr. Stetson drove to the house where he found Dr. Miller's carriage standing at the door. He decided to await Dr. Miller's appearance, but the latter did not appear, although occasionally he could be seen passing out from behind the curtains. Finally, however, after some time Dr. Miller appeared and was asked by Dr. Stetson for an explanation. Dr. Miller said he had *not* told the woman that she *had* ulceration of the cervix uteri, but that she had *incipient* ulceration, that is, *about* to ulcerate.

Regarding the era of malposition the subject has been written to death. Few physicians now believe

[1] See page 588.

in anteversion of the uterus, for some truthful gynæcologists already say that if it does exist, nothing can rectify it. Others, that it produces no symptoms that can be clearly referred to it, being in this respect like elongation of the cervix. Two cases of this where amputation had been performed were a few years ago detailed before a learned Society, as having followed abortion. But the reader when called upon to state what evil symptoms had arisen from this elongation, naïvely replied that this was the beauty of it, namely: that it had been accompanied by *no* symptoms, in fact the patients had not been aware that *anything* was the matter with the genital organs. In newly-born females the uterus is both ante-flexed and inclined to the left side.

The statements of Dr. Brown in regard to the undesirability of early ovariotomies were agreed to.

Dr. Irish said that he must offer a protest against that portion of Dr. Brown's paper which advised delay in the removal of ovarian tumors.

To illustrate the wisdom of deferring the operation of ovariotomy, Dr. Brown related the case of a lady who had lived eleven years, since the discovery had been made, that she had a tumor of the ovary.

Ordinarily an ovarian tumor becomes a source of serious disturbance in from one to three years, Dr. Brown's case being a marked exception.

He (Dr. Irish) believed in the early operation. In his own experience about one-half the ovariotomies in delayed and tapped cases were fatal, while in those that were operated upon early not one in ten was unsuccessful. An early operation usually saves the patient from all the dangers due to adhesions and degenerations of cyst walls.

During the past fifteen years, the percentage of deaths after ovariotomy had diminished from about 33 to 18 or 20 per cent., an improvement largely due to the fact, that ovariotomy is performed earlier now than formerly. He believed, too, that the proportion of fatal cases would become still much less than now, when early operations shall become the rule of practice.

Dr. Adams said that the mention of the name of Dr. Erasmus Miller, of Dorchester, recalled to mind the intra-uterine scarificator, which bore his name. He believed that this instrument, which Dr. Miller recommended, had gone quite out of use.

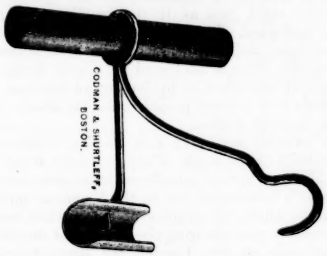
Only a few weeks ago a letter was received from Dr. Baker's Hospital, inquiring concerning the origin of a recto-vaginal fistula. About twelve years ago Dr. Adams had used this instrument in the case in question. The operation was followed by a cellulitis, pus formed, and was evacuated by opening into Douglas's sac, a drainage tube put in, and finally a spontaneous opening occurred into the rectum, with escape of pus per anum.

The patient moved away from town and was lost sight of. Dr. Adams doubted if any of the gentlemen present now employed this instrument or the method recommended by Dr. Miller.

Dr. Symington Brown, in reply to a question, said that Miller's intra-uterine scarificator is seldom used nowadays. It was at first kept a secret by the inventor, until Dr. H. R. Storer unearthed it. The subject of early or late operations in performing ovariotomy is a new one, not yet fully decided; but the testimony of Dr. Keith and Sir Spencer Wells — the two greatest operators in the world — is in favor of delay till the patient's general health begins to suffer. Cases occasionally occur where it would be proper to operate early.

Dr. Brown exhibited a set of wooden clamps, costing only a trifle, which answer the purpose as well as the expensive instruments ordinarily employed. Clamps are rarely used at present. He also showed a powerful uterine dilator, and a Sims's speculum, made of wood.

Dr. R. A. Kingman exhibited an axis-traction appliance designed especially for use with Simpson's or Braun's forceps.



The instrument is a simple attachment of steel wire which, by virtue of its own elasticity, can be quickly and securely applied to the forceps. When so applied it leaves the handles free for manipulation by the hand; it allows the blades to separate when no traction is being made; it does not scratch or mutilate the forceps, nor indeed does it require any change or mutilation of the instrument previous to its application.

While it is not presented as an improvement upon the Tarnier instrument and its modifications nor as superior to them for hospital and consultation practice, yet it certainly may claim the attention of the general practitioner because of the following *advantages:*

First. It is small. The handle is quickly removed by unscrewing the two parts of which it is composed, thus greatly reducing its bulk and enabling one to carry it in the instrument bag with almost no additional expenditure of space.

Second. It is cheap.

Third. It is simple. Its use is easily understood; it is easily applied; it is easily removed; it is easily cleaned.

Fourth. It can be used with ordinary (familiar) forceps. The importance of this point should not be overlooked. There is no new instrument to learn the use of; the old, familiar forceps are applied and then the little attachment is slipped on simply for the purpose of changing the direction of the traction.

Fifth. It can be ignored or quickly removed during extraction.

Dr. Chadwick asked if Dr. Kingman's principle was to pull with a straight instrument if he could. He thinks one must get some leverage, and that there is danger of pulling against the pubes, unless one's attention was called to it to pull down. He thought the blade curves of ordinary forceps was not correct when the additional appliance was attached, and they might get out of position and tear the cervix. He should question the principle of Tarnier's forceps whether to pull in the line of the bladder or the axis of the pelvis.

DR. E. W. CUSHING observed that, although Dr. Kingman's appliance was very ingenious and effectual in pulling backward, yet it differed from Tarnier's in a very essential point. In the latter instrument, not only is there a chance to pull backwards, but the power is so applied, that there is a free hinge motion near the fenestræ of the blades. In this way, the blades having been applied, and having adjusted themselves to the position of the head, when traction is made backwards, the forceps are able to move with the head in following the curve of the pelvis, as can be seen by observing the varying position of the large handles.

In Dr. Kingman's appliance, the forceps becomes practically rigid, just as if the handles were made hooked backward. In this way, undoubtedly, that can be done more easily, which has been done before, by pressing the forceps backward with one hand, and pulling with the other, or by having an assistant drag backwards with a towel passed round the shank of the forceps, near the blades.

This certainly may give axis traction in one sense, but it admits the principle of the free joint at the root of the blades, which is considered important, not only in Tarnier's instrument, but in the Viennese improvement of it, where the handles of the Tarnier forceps are likened to rods, showing the position of the blades, and the rods of the Tarnier are strengthened to handles, like ordinary forceps handles, but fastened to the blades by a strong pivot hinge.

DR. KINGMAN, in closing, stated that there was no more danger of pulling against the pubes than when the attachment was not used. Every practitioner was aware that in high applications, the handles must be kept well back against the perineum. As, however, traction in the axis of the superior strait if well-nigh impossible with the patient on the back, it is admissible, whatever instrument is used, to operate on the side. This being done, the danger of exerting leverage against the pubes no longer exists.

When the attachment is applied, it forms, with the forceps, practically one solid instrument, which fact should be rather an advantage than otherwise, for the reason that a fixed instrument is more under the operator's control than a jointed one. This brings the line of traction in the axis of the blades, so that we are virtually operating with a straight instrument.

The liability of the forceps to become disarranged and injure the cervix, is less when the appliance is used than without it, for the traction is more nearly in the axis of the blades. In fact, the pelvic curve is introduced merely for greater convenience in high applications, and detracts from, rather than adds to, the mechanical correctness of the instrument.

When this appliance is used, the handles do not serve as an automatic indicator of the direction in which to pull, but this advantage, originally claimed for Tarnier's forceps, has been shown to be of such trifling value as to be hardly worth mentioning.

DR. F. B. HARRINGTON exhibited an apparatus for the intra-venous injection of salt solution, which could be easily carried about, being enclosed in a box of three and one-half inches cube. It consisted of a bell-shaped, glass reservoir holding eight fluid ounces, five feet of rubber tubing, a stop-cock, and a canula for inserting into the vein. The box also contained filter papers and a number of powders, each consisting of

Sod. Chlorid.	3 iss.
Sod. Bicarb.	grs. xv.

One of these powders, when mixed with a quart of water at 100° Fah., makes a solution, which is generally regarded as best suited for intra-venous injection in cases of hæmorrhage. Dr. Harrington referred to his case of intra-venous injection, reported in the JOURNAL of March 4, in which sixty-six ounces of the salt solution were injected, saving the life of the patient. The cost of the apparatus is very slight, and can be obtained of the instrument makers.

DR. BUCK mentioned the case of Jäger,[1] of Ragaz, who had to abandon transfusion in a thirty-two-year-old viii-para, on account of difficulty in finding the veins; after her recovery, it was impossible to render the veins visible, even under fifteen minutes' ligature of the upper arm. He had seen the same difficulty in two cases of transfusion in the Vienna Lying-in Hospital.

Cohnheim rejected the intra-venous method because of the risks of air-embolism, and by overpowering the heart by too sudden a distension under excessive pressure, and taught the injection into the central end of an artery (radial or tibial). Peripheral injection has been followed by gangrene, from rupture of the vessels under the pressure used to overcome the resistance of the arterioles irritated by the foreign fluid.[2]

In the United States, centripetal arterial injection has been successfully performed by Dennis, of Bellevue Hospital.

DR. CHADWICK said that a dozen years ago, he tried the operation of intra-venous injection in several cases of tuberculosis and anæmia, and in most of them, he met with considerable trouble in finding the vein. He has been as long as one-half hour in so doing. Salt acts better than blood. In Dr. Harrington's case, ʒ 66 were used. During the cholera epidemic of 1849 in this city, salt injections were used in thirty to forty cases, and all rallied, but twenty-four hours later, died. However, nearly all the patients died, irrespective of any treatment.

RHODE ISLAND MEDICAL SOCIETY.

THE seventy-fifth annual meeting was held in Providence, June 10, 1886, Vice-President HORACE G. MILLER in the Chair.

The Secretary's annual report showed that eight Fellows had been elected during the year 1885–6. The losses had been, by death eight, and by resignation and removal four. The total membership, June 1st, was one hundred and ninety-eight.

DR. CHARLES H. LEONARD, Treasurer, presented his annual report. The total income, including a balance from the previous year, was $870.68; expenses, $447.97; balance on hand, $422.71.

DR. GEORGE L. COLLINS, Secretary of the Trustees of the Fiske Fund, announced that a premium of two hundred dollars had been awarded to Dr. Charles V. Chapin, of Providence, for the best essay on "The Methods and Practical Results of Treatment of the Malarial Diseases now Prevalent in New England." An equal premium of two hundred dollars had also been awarded to Dr. Hobart A. Hare, of Philadelphia, for the best essay on "New and Altered Forms of Disease due to the Advance of Civilization in the past Half-Century."

[1] Centralblatt für Gynæcologie, No. 46, 1885.
[2] Kümmel, Centralblatt für Chirurgie, No 19, 1881.

The Trustees propose the following subjects for 1887: I. Antiseptic Midwifery in Hospital, Dispensary, and Private Practice. II. Membraneous Enteritis.

For the best essay on either subject, worthy of a premium, they offer a prize of two hundred dollars. Competing essays must be sent to Dr. George L. Collins, Secretary of the Trustees of the Fiske Fund, Providence, R. I., before May 1, 1887.

DR. T. SEWELL, Chairman, read the seventh annual report of the Committee on the Library. 1,037 volumes were added during the year, the Society's library now containing 5,630 volumes.

The second annual report of the Committee on the Museum was read by the Chairman, Dr. W. J. McCan. Many wet and dry specimens were added during the year, and much time and labor expended in their preservation and arrangement.

DR. W. R. WHITE, anticipating the future needs of the growing library and museum, offered a resolution, which was adopted, instructing the Chair to appoint a committee of five, to be known as the Building Committee, of which the President of the Society shall be *ex-officio* a member. The duty of this Committee shall be to solicit funds for a building for the use of the Society.

On motion of Dr. C. H. Leonard, it was voted that the sum of seven hundred dollars be applied to the Building Fund whenever the balance in the treasury justifies the transfer.

DR. J. R. CHADWICK, Librarian of the Boston Medical Library Association, in response to an inquiry by the Chairman, explained how funds had been raised for the maintenance of that successful institution.

The venerable Dr. Henry I. Bowditch was introduced as a delegate from the Massachusetts Medical Society, and addressed the Society forcibly and at length on the proper attitude of the profession towards homœopathy, eclecticism, and kindred delusions. The action of the American Medical Association in requiring delegates to declare, annually, their allegiance to its standard of ethics, was denounced as arrogant and despotic.

DR. H. R. STORER reported as a delegate to the recent convention of the American Medical Association at St. Louis.

Officers for the ensuing year were elected as follows: President, Horace G. Miller; First Vice-president, Albert Potter; Second Vice-president, John W. Mitchell; Recording Secretary, George D. Hersey; Corresponding Secretary, Edward M. Harris; Treasurer, Charles H. Leonard; Censors, Ariel Ballou, J. H. Eldredge, J. W. C. Ely, G. P. Baker, S. S. Keene, Benjamin Greene, Eugene Kingman, and Job Kenyon.

The President announced the re-appointment of Dr. G. W. Carr on the Board of Examiners for a term of five years.

Standing Committees were re-elected as follows: On Necrology: C. W. Parsons, E. T. Caswell, Albert Potter; on Publications: G. W. Porter, R. F. Noyes, C. D. Wiggin; on the Library: T. Newell, H. G. Miller, G. D. Hersey, O. C. Wiggin, G. W. Porter; on the Museum: W. J. McCan, G. T. Swarts, F. B. Fuller, C. M. Godding; Auditor, F. H. Peckham, Jr.

DR. S. S. KEENE, Secretary of the Board of Censors, reported that Drs. S. L. Caldwell, Jr., John Champlin, G. L. Collins, T. W. Hague, W. L. Munro, and S. A. Welch, had passed satisfactory examinations and were recommended for Fellowship. They were elected unanimously. Dr. C. H. Leonard was appointed Anniversary Chairman for the annual meeting in 1887.

The annual address was delivered by Dr. W. H. Palmer, his subject being "Heredity, and some Medico-Legal Conclusions therefrom."

Following adjournment, the annual dinner was served in Blackstone Hall, Dr. W. R. White presiding as Anniversary Chairman. After-dinner speeches were made by President-elect Dr. H. G. Miller, Dr. Albert Potter, Dr. W. J. Burge, Hon. N. Van Slyck, Hon. George M. Carpenter, Prof. T. W. Bancroft, Drs. H. W. Williams, H. I. Bowditch, and J. R. Chadwick, of Boston; Rev. D. H. Greer, and Drs. W. B. Goldsmith, F. C. Clark, W. E. Anthony, J. H. Morgan, and G. F. Keene.

ASSOCIATION OF AMERICAN PHYSICIANS.

THE first meeting of the Association of American Physicians was held in the Army Medical Museum, Washington, June 17 and 18, 1886.

The meeting was called to order by the President, DR. FRANCIS DELAFIELD, of New York.

The following is a list of the original members of the Association, the majority of whom were present:

Philadelphia, Pa.: James H. Hutchinson, William Pepper, William Osler, S. Weir Mitchell, J. M. DaCosta, Horatio C. Wood, James C. Wilson, Edward T. Bruen, Morris Longstreth, James Tyson, E. O. Shakespeare, Henry F. Formad, Wharton Sinkler, Fred. P. Henry, I. Minis Hays.

New York City: Francis Delafield, Wm. H. Draper, George L. Peabody, A. Brayton Ball, A. Jacobi, E. G. Janeway, Francis P. Kinnicutt, Alfred L. Loomis, William T. Lusk, Thomas A. McBride, A. A. Smith, Wm. M. Polk, T. Mitchell Prudden, Beverley Robinson, E. C. Seguin, E. Darwin Hudson.

Boston, Mass.: Robert T. Edes, Francis Minot, Frederick C. Shattuck, Edward N. Whittier, George M. Garland, Reginald H. Fitz, William W. Gannett, Charles F. Folsom, Frank W. Draper, James J. Putnam, George B. Shattuck.

Montreal, Canada: R. P. Howard, George Ross, George Wilkins.

Baltimore, Md.: Frank Donaldson, F. T. Miles, Samuel C. Chew, William H. Welch, W. J. Councilman, J. E. Atkinson.

W. W. Johnston, Washington, D. C.; Samuel C. Busey, Washington, D. C.; J. E. Graham, Toronto, Canada; J. T. Whittaker, Cincinnati, Ohio; F. Forsheimer, Cincinnati, Ohio; G. Baumgarten, St. Louis, Mo.; P. G. Robinson, St. Louis, Mo.; S. Edwin Solly, Colorado Springs, Col.; H. M. Lyman, Chicago, Ill.; Hosmer A. Johnson, Chicago, Ill.; H. D. Schmidt, New Orleans, La.; Joseph Jones, New Orleans, La.; F. Peyre Porcher, Charleston, S. C.; Thomas F. Rochester, Buffalo, N. Y.; Henry Hun, Albany, N. Y.; Samuel B. Ward, Albany, N. Y.; John T. Carpenter, Pottsville, Pa.; Edward L. Trudeau, Saranac Lake, N. Y.; J. F. A. Adams, Pittsfield, Mass.; J. T. Dana, Portland, Me.; James K. Thatcher, New Haven, Conn.; John S. Billings, U. S. A.; George M. Sternberg, U. S. A.; John Guiteras, U. S. Marine Hospital Service, Charleston, S. C.

Honorary Members. New York: Alonzo Clark,

Meredith Clymer, John C. Dalton, John T. Metcalfe. Philadelphia: Alfred Stillé, Joseph Leidy. Boston: Henry I. Bowditch.

President, Francis Delafield, M.D., of New York; *Secretary*, James Tyson, M.D., of Philadelphia; *Treasurer*, A. Brayton Ball, M.D., of New York.

The President then delivered the opening address, which will be found on page 581 of the JOURNAL.

The Committee on Permanent Organization reported a Constitution and By-Laws, which, after several amendments, was adopted. The main provisions of the Constitution are:

That the Association has for its object the advancement of scientific and practical medicine. It shall be known as the Association of American Physicians, and shall hold its annual meeting in the month of June, in the city of Washington, D. C.

That the proceedings shall consist of discussions on subjects of general interest in the departments of medicine and pathology; of original communications, and of demonstrations of gross and microscopic preparations, of apparatus, and of instruments.

That there shall be members and honorary members. The number of members shall be limited to one hundred. Physicians of sufficient eminence to merit the distinction, may, to a number not exceeding twenty-five, be elected honorary members, and, as such, shall be entitled to attend all meetings and take part in the proceedings, but not to vote upon business questions.

That nominations for membership shall be signed by two members, be referred to the censors, and be acted upon at the succeeding meeting.

The following Nominating Committee was then appointed to report on Friday morning: Drs. James Tyson, A. Brayton Ball, George B. Shattuck, Frank Donaldson, and Hosmer A. Johnson.

The first paper was entitled

TENDON-JERK AND MUSCLE-JERK IN DISEASE, ESPECIALLY WITH REFERENCE TO POSTERIOR SCLEROSIS OF THE SPINAL CORD,

by DR. S. WEIR MITCHELL, of Philadelphia; and DR. MORRIS J. LEWIS, of Philadelphia.

The investigators believed that, by their work, they had increased the knowledge of the symptomatology of this affection. It was stated that while a muscle or a nerve may be excited by both electrical and mechanical irritation, the former is to be regarded as a ruder agent than mechanical stimulus. In some cases, electricity is inapplicable beyond a certain extent. It was held that the knee phenomenon was a direct muscular response, and not due to reflex action. The most delicate test for determining the condition of the muscle is by striking the stretched tendon. This can be done in various situations, as at the knee, ankle, elbow, and jaw. Every distinct muscular exertion, such as winking, if accurately timed, exaggerates these phenomena. To demonstrate this, the patient should lie down with the knee slightly bent. At the time that the tendon is tapped, or just before, the patient is directed to wink, and it will be noticed that the jerk is much increased. This is more beautifully shown in the act of phonation, the patient being directed to count strongly, bringing the whole chest into play at the time the test is applied. A decided sensation, such as heat, cold, or an injury, will increase the responsive power of the muscle or tendon which has been struck. Both the tendon and the muscle-jerk are re-inforced by irritation of distant parts. This re-inforcement disappears when the muscles are cut off from the spinal centres.

A blow on the muscle causes the muscle jerk to extend up and down, but not transversely. In some cases of disease, this jerk is irregular. In addition to this contraction, the muscles may form a little eminence or mound, which disappears slowly. Late in ataxia, this is unusually well marked. It is also observable in some healthy muscles.

The phenomenon of reinforcement was attributed to an increase of tone in the muscle as a result of the distant irritation.

A tabular statement was then presented giving the results of observation in twenty-three cases of locomotor ataxia. In this table the various symptoms and signs presented, were represented by signs. In this way the history of each case could be seen at a glance.

In selecting a decisive symptom by which to arrange the cases into classes, station, or the ability to stand, was selected. This can be accurately estimated by having the wall back of the patient ruled in inches. The examiner takes his place in front of the patient and directs the patient to keep his eye on a particular spot above the head of the observer. It is then noted how much he varies laterally with his eyes open. He is then turned so that the anterior-posterior sway may be noted. The examination is then made while the patient has his eyes closed. Numerous examinations made by Dr. Guy Hinsdale, show that the normal man does not sway over one-half inch laterally and not over three-fourths of an inch in the anterior-posterior direction. The normal man sways forward first, and first to the right. When the sway is more than three-fourths of an inch in the lateral direction or more than one inch in the antero-posterior direction, the case should be looked upon with suspicion as indicating that the general health is disturbed or that there is some disease interfering with the maintenance of the equilibrium. The cases were divided into four classes: 1, those in which station was normal; 2, those in which it was slightly impaired; 3, those in which it was greatly impaired; and 4, the paralytic cases. In the cases examined, the knee and ankle jerks, and their reinforcement, were absent at the time when the cases came under observation. The changes in the arm jerk seem to advance in the same way as the leg jerks, although they come on later. In the paralytic stage the muscle jerk is increased, although the reinforcement is absent. In the first stage of locomotor ataxia, the tendon jerk is diminished or absent, while the reinforcement is fair. In the subsequent stages both the tendon jerk and its reinforcement are absent. The muscle jerk and its reinforcement continue normal through the first two stages. In the third stage, while the muscle jerk is normal, the reinforcement is absent. In the fourth stage the muscle jerk is increased while the reinforcement is absent. In the fifth stage, the muscle jerk is diminished and the reinforcement is absent. In the sixth stage, both the muscular jerk and the reinforcement are absent. The increase of the muscle jerk late in the disease may be due to some irritative changes in the muscle, but this has not been positively determined.

In regard to associated movements. In a certain proportion of cases, if the patient is directed to shut his right hand, the left hand will also shut to a certain extent, and if the patient is sitting down, the leg may

be drawn up. This condition has become more marked as the ataxic condition has increased.

Another symptom referred to and which was considered a new symptom was prominence of the eyeballs. While the condition is not as marked as in exophthalmic goitre, it is sufficiently distinct to be apparent, if attention has been called to the matter.

DISCUSSION.

DR. E. C. SEGUIN, of New York. As the views advanced by Dr. Mitchell are new, it is perhaps unnecessary to say anything in the way of criticism. I simply wish to suggest a possible explanation of the reinforcement. This evidently belongs to the general class of reflex actions as contra-distinguished from direct volitional action. I would suggest that when the patient performs some movement or when his attention is attracted by excitation of a sensory nerve, the cerebral inhibitory influence over the spinal cord is momentarily reduced and the reflex powers are raised for the moment. The reinforcement seems to be rather a negative condition.

DR. JAMES J. PUTNAM, of Boston. I agree with Dr. Seguin as to the possible explanation of the phenomenon of reinforcement. This is perhaps merely a question of words. It seems to me a mere matter of words whether we consider this due to withdrawal of influence from above or to an increase in the tonus of the muscle.

DR. H. C. WOOD, of Philadelphia. This seems to me to be not simply a matter of words. The explanation of the knee jerk is based on physiological ideas. There are three classes of movements, the voluntary, the reflex, and then movements originating in the muscle or in the nerve-endings in the muscle. Until the fact that the time of the knee jerk is so different from the time of the other reflexes is explained, we must, I think, consider that we have these three classes of movements. It is possible that the movements in the muscle are the result of inhibition, but at present we have no proof that such is the case. It seems to me wisest to accept for the time, the provisional theory, brought forward by Dr. Mitchell.

TYPHOID FEVER,

by F. PEYRE PORCHER, M.D., Charleston, S. C.

The author described a method of treatment which he considered very satisfactory. As in all cases of high temperature there is costiveness, the result of the arrest of the intestinal secretions, he recommended a mild laxative at the beginning of the treatment. Any laxative may be employed; the following combination is useful:

℞ Pulv. Rhei., gr. ii-iv; magnesiæ, grs. x; hydrarg. chloridi mite, gr. ss.-ii; sodii carbonatis, grs. iv; pulv. ipecac, gr. 1-4; M. et ft. Pulv., No. 1. Sig. One powder every four or five hours, as required.

In the treatment of typhoid fever, three things are to be considered: the necessity for maintaining the strength of the patient, the support of the system by the use of stimulants, and the morbid effect of high temperature. Special attention was directed to the latter element of the treatment. In reducing the temperature, the speaker had resorted to the use of ice-cold water, which was applied to the head, hands and arms, the use of towels wrung out in the water and reapplied as frequently as necessary. The applications are continued for ten to fifteen minutes until the heat of the skin is reduced. The use of baths was considered objectionable on account of the difficulty of their application, and on account of the prejudice against them. He prescribes for internal use, a fever mixture, prepared somewhat as follows:

℞ Potassii acetatis, ℥i; liquor ammonii acetatis, ℥i; spr. ætheris nitrosi, ℥ss; tinct. aconiti, ℥ss; aquæ ad. ℥iv. Sig. A dessertspoonful in a little water every two hours, so long as the fever continues.

Morphia or the bromides may be added to the above preparation. It may also be employed in other fevers. Hot pediluvia may also be employed. In malarial cases, quinine and arsenic are employed. Later the use of the mineral acids is added. With reference to the use of stimulants, these may be continued as long as the tongue is dry. Oil of turpentine is often called for on account of tympanitic distension of the abdomen. It is also of value as an astringent and as a general stimulant. The speaker had treated thirty cases in private practice in this manner, of which number, three died. In these cases there were causes sufficient to explain the fatal termination.

DISCUSSION.

DR. JAMES TYSON, Philadelphia. Recently in a case under my observation, to reduce the temperature, I wrapped the patient in a sheet which was kept constantly wet with ice water. This was entirely successful. In this case both antipyrine and thalline were employed, but although they promptly reduced the temperature, it soon returned to its original position. When it is necessary to keep the temperature continuously reduced, some modification of the cold pack is, I think, the best method.

DR. JAMES T. WHITTAKER, Cincinnati. We should not lose sight of the possibility that the high temperature may be nature's way of getting rid of the poison. It has been found that the virulence of the typhoid fever bacillus can be reduced by heat. It is also possible that the changes formerly attributed to heat, may be due to bacilli.

DR. E. DARWIN HUDSON, New York. When I assumed my duties at the Bellevue Hospital three years ago, I found such a simple plan in vogue of treating typhoid fever, followed by such good results, that I abstained from suggesting any alterations. I am confident that under that treatment the successes among the poor pauper class of patients in that institution are greater than among the private practice of many physicians. The treatment is almost negative, consisting in sponging the patient every two hours during the continuance of the temperature above 102.5°, and adherence to an absolute milk diet. The only other measures employed are those directed to the relief of special symptoms occurring in the course of the disease.

DR. SAMUEL C. CHEW, of Baltimore. In order to reduce the temperature, I have used quinia by hypodermic injections. It seems to have almost a specific action when used in this way. I have used the solution of the hydrobromate of such strength that twenty minims represented four grains of the drug.

DR. FRED P. HENRY, Philadelphia. I recently read of a series of one hundred cases treated by Labarraque's solution with only one death. I have tried this at the Episcopal Hospital and have treated twenty-six cases with four deaths.

DR. WILLIAM H. DRAPER, New York. There is perhaps nothing more fallacious than statistics in typhoid fever. Cases of fever not truly typhoid are

confounded with specific typhoid fever. We have all seen cases in which there was a continued fever but in which the temperature did not run the typical course. I think that in such cases we have no evidence that they are cases of typhoid fever.

Experience shows that the value of antipyretic treatment in typhoid fever may be readily overestimated. I think that in the majority of cases the value of antipyretics is not so much in reducing the mortality, as in affording comfort to the patient. That it does this, no one can doubt. The mortality of typhoid fever in the majority of cases depends upon conditions over which a reduction of the temperature would have no influence.

DR. WILLIAM PEPPER, Philadelphia. I believe that hospital statistics are worthless so far as filling any special purpose. We have, however, statistics showing the normal course of typhoid fever, which would make us slow to accept a mortality of fifteen or even ten per cent. as evidence of much success. I think it doubtful if the normal mortality would be over fifteen per cent. Under good nursing our successes vary. I have treated a series of one hundred and four cases without a single death, and again I have treated twenty cases and lost five.

It is evident that in typhoid fever, we have different sorts of fevers, and a remedy applicable to one set of cases, may not be to another. An excellent rate of mortality may, I think, be secured by absolute rest from the first moment of suspicion, and a rigid diet of milk or milk diluted. In addition, I believe that the abstraction of heat by the use of cold water is of great value. I believe that some remedy directed to the constant and important lesion of typhoid fever, aids in reducing the temperature. I do not know that we have positive knowledge as to the best drugs for this purpose. My own preference is for the salts of silver. If the case comes under observation early, is put at absolute rest and receives proper treatment, I think that the mortality should not exceed five or six per cent. In private practice, I believe that it can be kept down to this.

— The *British Medical Journal* says that it is officially announced that Señor Rafael Alcalde y Buril has been appointed surgeon-dentist to the infant king of Spain, whose birth lately gave rise to so much rejoicing in the Spanish capital. The *Globo* inquires, very naturally, whether the young king was born with teeth. In any case, the post of this professor of the gentle dental art, will, for some months to come, be as much a sinecure as that of the surgical instrument-maker, who was recently addressed by a country customer as "suspensory bandage-maker to Her Majesty."

— On the 29th ult., the statue of John Hunter, presented by Her Majesty the Queen, was unveiled in the University Museum, Cambridge, England. An address on the character and work of John Hunter, with special relation to the effect of his labors on surgery and medicine, was delivered by Sir James Paget, Bart., D.C.L., in the Lecture-room of the Museum. The statue was then unveiled in its place in the Court, and presented to the University on behalf of Her Majesty by her Royal Highness the Princess Christian.

Medical and Surgical Journal.

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MILITARY DRILL AND PHYSICAL TRAINING IN THE PUBLIC SCHOOLS.

PROFESSIONAL and, to a certain extent, public attention has been directed by recent discussions in Boston, to the subject of military drill as a means of exercise, and more widely to the general topic of physical training in the schools.

It admits of no question that the conditions of life among the great majority of children in this and other cities, are not such as to conduce to a proper kind and degree of bodily exercise. Even those whom narrow means oblige to contribute something to the industries of the household, do not work under the favorable surroundings in which their cousins of the country do their "chores." While space for those healthful outdoor sports which do so much for the child's physique is not for the majority attainable, except at the expense of quite a journey. The proximity of the school-houses in the denser parts of the city relieves the children of a long walk to reach them, and for the longer distances to the higher schools many use public conveyances. The appearance of many of our school children, particularly the girls, as was pointed out in the recent address of Dr. Hodges, is not encouraging to one who hopes to see robust health in them or their future offspring.

For the bodily welfare of the children under their charge it is distinctly the duty of school authorities to provide. A great deal has been written regarding over-pressure and doubtless much of it is true, though the last report of the superintendent of schools in Boston, rightly puts some of this responsibility at the door of dancing parties and other evening amusements and occupations which should have little place in the lives of young children. But when over-pressure from studies does exist, the true remedy in many cases is to build up and develop the body so that it can carry the burden. A well-fed and well-trained body should be and is capable of doing considerable work, and if thus capable is the better for the work. Hence the *corpus sanum* should receive as much care as the *mens sana* by those charged with the training of the young.

The best side of the military drill as a school exercise is its moral side. The importance in any educational system of securing prompt and unquestioning obedience to established authority has already been pointed out in these columns, as well as elsewhere. Many a boy in danger of mental, moral and physical wreck, has been saved by being put under the strict rule of a training-ship, and, though the discipline of a school regiment bears no comparison with that of the army or the navy, it doubtless teaches to wilful boyhood something of the supremacy of law.

It is also true that the military method, so far as it involves practising the pupils in squads, is adapted to, in fact is necessary for the stated exercise of large numbers of individuals. Alignments, manœuvres, and marching in step at the common and double quick time, have an important part in training the muscles to act in harmonious precision with each other and with those of others in a prescribed rhythm. The "setting up drill," which is enjoined by the tactics to be executed without the guns is undoubtedly of much value, and merits a great deal more attention than it receives in the school regiment. The newly-arrived cadet at West Point is given a thorough and severe course of the setting up drill for one or two months before he is allowed to touch a musket, and such an effect does this have upon his figure that we understand it is not considered worth while for a cadet to be measured for a coat until after he has been put through this training.

When we come, however, to consider the drill with muskets as a physical exercise, much less is to be said in its favor. The artificial, constrained and unilateral movements compare but poorly with the free play of muscles which may be gained under skilled instruction with the simplest apparatus or even with no apparatus at all. With regard to the production of absolute deformity there is perhaps as yet insufficient evidence. The mature and healthy organism is doubtless able to resist an amount of unilateral pressure greater than that involved in two hours per week of drill. The average age of the boys on entering the schools where drill is practised is fifteen years and nine months, and at that period most of them have attained a considerable degree of physical stability. Some fifteen per cent., however, are between this age and thirteen years, the age at which the drill becomes compulsory. It is among these boys that any unfortunate results from a unilateral exercise are most likely to be felt. For them, and indeed for most of the boys there is little doubt that the muskets used, only a pound, or at most a pound and a quarter lighter than the standard arm of the service, are much too heavy.

The strongest ground of objection to the drill is not so much its positive injury as the negative consideration that as an exercise it is *defective* both as regards the individual, and what is still more important, as regards the school children collectively. It is a grave omission to establish as the sole provision for the training of our children's bodies a system which is applicable to but two per cent. of them, and which ignores entirely the sex that stands most urgently in need of bodily culture. The great majority of the children end their tutelage with the grammar schools. Even if we were justified (which we are not) in restricting our care to the children above the established drill age, there are upwards of 11,000 in the grammar schools who are over thirteen, while if we were to follow the admirable example of Prussia in this matter we should have in Boston 50,000 scholars above the age of six for whom stated physical exercises should be provided.

The question as to what form of culture is best adopted for the needs of this body of growing children is one of great practical importance. It must be one that is simple, easily within the capacity of all, and inexpensive. The German method has given excellent results, and when the American public has arrived at that conviction of the importance of physical training which will make one-thirtieth or even one-twenty-third of the whole educational appropriation not seem an extravagant proportion to devote to the culture of the body, some such complete system as that which has been so long compulsory in Germany can be introduced into the cities of this country. In the mean time the simple method of required gymnastics in use for the last twenty-five years in Amherst College, where the only apparatus consists of wooden dumb-bells, weighing two pounds a pair, offers a valuable suggestion. The work there is done in classes, each with its captain and under officers, so that there is a semblance of military method, which is still further carried out by the evolutions practised, marching by the file and flank, running, etc. The movements are all executed by the class simultaneously, the time being given by a piano.

The lightness of the apparatus serves at first to entitle the method to the term of calisthenics rather than of gymnastics, but it should be remembered that the aim of the best physical training even in the most fully equipped gymnasium is not to secure feats of agility and strength or even to build up massive muscles, but simply to give such thorough physiological action to the various parts of the body under a moderate acceleration of pulse and respiration as shall impart to the nerve centres and all the members and organs a rapid renewal of structure and a corresponding activity of function. With the metronome at ninety the execution of this drill is not conducive to habits of laziness, and we are assured that the young men can go through movements enough with these wooden dumb-bells, to secure the necessary muscular waste and development for healthful study. If so, the method could probably be made equal to the requirements of our school boys and girls. Given the very simple and cheap apparatus, given the space (and there are halls in many of our school-houses sufficiently large if they could be cleared of furniture) and finally given the instruction, which is likely to be the largest item of expense, and a fair beginning could be made towards developing the bodies of boys and girls alike.

Kansas City is, so far as we have learned, the only American city that has taken hold of this work of physical training in earnest. In New York an arrangement was made with one of the turnvereins whereby the latter was to furnish teachers to try the experiment in accordance with the German method in certain of the schools. The right of the city to expend money for this purpose was questioned, and the matter is therefore in abeyance.

A pamphlet of Professor Hartwell, of Johns Hopkins University, on Physical Training in American Schools and Colleges has, since the above was in type, been received from the Bureau of Education, and the very cursory examination which we have had an opportunity to give it indicates a considerable value to the information it contains. We are also happy to note that the first report of the Instructor of Hygiene in the public schools of Boston, just issued, contains a strong plea for more adequate provision for such instruction throughout the schools, although he evidently entertains grave doubts as to the feasibility of obtaining the requisite appropriation. A new report on the Amherst College system is also promised, covering twenty-five years experience of the present instructor which will, we trust, offer some further suggestions on this matter. We shall take leave to recur to this subject on a future occasion.

THE DEATH OF DR. BERNHARD VON GUDDEN.

BY far the most regrettable incident connected with the suicide of the late King of Bavaria, was the death of the accomplished alienist who was in attendance upon him. Investigation into the details of the sad affair shows, according to the telegraphic reports in the daily papers, that the King threw or dragged Dr. Gudden into the water. The bushes and pathway near the scene of the suicide showed signs of a desperate hand-to-hand struggle. A hat was lying in one place, and a coat in another. The latter seemed to have been hurriedly torn off and flung on the ground. A little farther on, two umbrellas were found. The King, in all probability, sprang at the doctor — who, though sturdy and powerfully built, was less youthful and active — when he was off his guard. Another explanation is that the King made suddenly for the lake, and the doctor ran after him and grappled with him, but was overpowered and hurled into the water. Dr. Gudden was well aware of the impossibility of trusting the King for a moment, although the latter had given him a solemn promise to obey his orders.

This physician, who has fallen a victim to duty, was the chief medical professor at the University, and director and head physician of the Munich Insane Asylum, which he had managed successfully since the resignation of the post by the celebrated Dr. Sulhig. He was born at Cleaves, June 7, 1824. After distinguishing himself as a student, he became assistant to the famous physician, Dr. Jacoby. In 1869, he was appointed head of the asylum at Wernock.

As a scientific man, investigator, professor and clinical observer, anatomist, physiologist and pathologist of the brain, Gudden had no superior in the world; not more than two or three, at the outside, were his equals. He was a thorough gentleman. He also had, what is rare in any thoroughly scientific man, great practical sense and extraordinary administrative ability.

In insane asylum re-organization, to meet the advanced views in treatment, he was easily first in the Continent of Europe; but few of the English and Scotch alienists, including such men, as Clouston, Crichton Browne, Rutherford, and a few others, were his equals.

His asylum in Munich was the best organized, equipped, managed, and constructed in Germany. Taking him all around, no other specialist in mental disease could be so great a loss to the scientific world and to the body of physicians conducting insane asylums and treating mental disease.

FIRST ANNUAL MEETING OF THE ASSOCIATION OF AMERICAN PHYSICIANS.

THE lately organized Association of American Physicians held its first annual meeting at Washington, last week. The address of the President, Dr. Francis Delafield, will be found in our present issue, and the JOURNAL will contain a report of the papers and discussions.

The meeting was largely attended, fifty-six out of seventy-four members being present, and was in every way very successful. A large number of papers were offered; some of those presented exhibited marked originality, and almost all careful thought and research. The two days devoted to the meeting were really given up to its work, in spite of the heat of the first day. The members accepted the amiable hospitality of two of their Washington colleagues, but there was an entire absence of junketing, and likewise of medical politics.

We sincerely hope and believe that these negative features, as well as the positive ones of earnestness and enthusiasm will continue to characterize the meetings of this Association. A committee of conference was appointed to consider, in connection with similar committees from other special Associations, the advisability of forming a general central organization uniting them all. We shall revert to this subject again.

The following officers were chosen for the ensuing year:

Drs. S. Weir Mitchell, President; Francis Minot, 1st Vice-President; R. P. Howard, 2d Vice-President; G. L. Peabody, Secretary; J. T. Whittaker, Recorder. A council of seven members was also chosen: Drs. W. H. Draper, of New York; R. T. Edes, of Boston; H. M. Lyman, of Chicago; S. C. Busey, of Washington; F. C. Shattuck, of Boston; W. H. Welch, of Baltimore; William Osler, of Philadelphia.

MEDICAL NOTES.

— The innominate artery was tied on March 27th, by Mr. Bennett May, at the Queen's Hospital, Birmingham, for aneurism of the right subclavian artery. The patient died of secondary hæmorrhage on the nineteenth day.

— An incident in professional life is reported from Vienna, in which a tailor, on being told by his physician, whom he had called to consult as to a disease from which he was suffering, that recovery was impossible, forthwith shot the physician in two places and then fatally shot himself.

— Mr. Bloomfield gives, in the *Practitioner* for May, a *résumé* of five cases of hypertrophy of the male breast, reported by Dr. Leudet in the *Archives de Médicine*, occurring, in every instance, in patients suffering from well-established phthisis, and adds a further case of the same character from his own observation. The affection seems to consist of a general augmentation of the volume of the gland, without local induration, without any coloration of the skin, without axillary glandular enlargement, and accompanied by spontaneous, non-radiating pain. One gland only is usually affected. There is never suppuration. In some cases, a drop of serous fluid was squeezed out, presenting, however, microscopically, only epidermal cells. It is suggested that the phenomena is in some way connected with the internal inflammatory process in the neighborhood. In one instance, there had been frictions of the chest that might have stimulated the gland.

— At the recent meeting of the Massachusetts Medical Society, a noticeable figure among the representatives of the gentler sex was that of a woman of olive complexion and picturesquely oriental attire. It was Madame Anandebai Joshie, a Hindu Brahmin lady, who has recently graduated at the Woman's Medical College, of Philadelphia. The husband of Madame Joshie, just from India, and her aunt, the Pundita Ramabai, who has been for two years Professor of Sanscrit in a woman's college in Cheltenham, England, and who was accompanied by her little daughter, five years old, came to this country to witness the unusual scene. This aunt, Ramabai, received an equal education with her brother, who died early. She married a distinguished Sanscrit scholar, who lived but one or two years. After his death she devoted herself to the education and elevation of her countrywomen, formed a society for the establishment of schools for native girls, and headed an appeal of three hundred Brahmin ladies to the English Education Committee in 1882, for aid in this work. The medical education of her niece, in which she took great interest, is a matter of significant promise for the women of India.

In this connection, it may be mentioned that Lady Dufferin's work in the cause of hospitals and dispensaries for the women of India, has been very successful, among the recent donations being $60,000 from a native widow, $50,000 from a Parsee merchant, and buildings with fifty acres of land from the Nawab of Rampore.

BOSTON.

— The bill prohibiting the manufacture of arsenical fabrics, to which we have occasionally referred, has we regret to say, been killed by an adverse vote in the House of Representatives.

— The plan to permit the city of Boston to take an additional water-supply from the Shawsheen River has been defeated in the Legislature, apparently by a fusion of effort on the part of those who claimed that the Mystic supply was so good that nothing else was required, and of those who argued that the city should go further for its needed supply.

Miscellany.

SCARLET FEVER FROM THE COW.

The *British Medical Journal* (May 29), presents editorially the results of a most important report of the Local Government Board recently made by Mr. W. H. Power, regarding the outbreak of scarlet fever at Marylebone to which the Journal has already made brief reference. The report seems to prove, our contemporary remarks, as clearly as circumstantial evidence can prove anything, that scarlet fever can be produced by the milk of cows suffering from a disease so slight in its local manifestation as almost to escape attention, and producing so little disturbance of the general health of the cows, that their appetite is not impaired, nor the quantity of milk which they yield diminished.

The first thread in the web of evidence which Mr. Power has woven so skilfully, was afforded by an observation made by Mr. Wynter Blyth, the medical officer of health for St. Marylebone. On December 18th, 1885, he reported to the Local Government Board that an extensive outbreak of scarlet fever in St. Marylebone, appeared to be associated with the distribution of milk by a certain retail milk-dealer, who obtained the greater part of his supply from a dairy-farm at Hendon. The next point which Mr. Power ascertained was, that milk from this dairy-farm was sent to three other retail dealers; one at St. John's Wood, another at Hendon, and a third who carried on business at Hampstead and St. Pancras. The epidemic began in St. Marylebone towards the end of November, and, at about the same time, outbreaks of the same disease had occurred among the customers of all the other milk-sellers, except those who dealt with the dairy in St. John's Wood. Moreover, it was ascertained that certain customers of the Marylebone milkman had received milk from Hendon unmixed with milk from any other farm. Suspicion pointed therefore strongly to the farm at Hendon; but here, for a time, the investigators were at fault, for a thorough examination of the farm and of the laborers employed there failed to reveal any unsanitary conditions; and Dr. Cameron, the medical officer of health, who associated himself with Mr. Power in this stage of the inquiry, was able to affirm positively that there had been no cases of scarlet fever, or any disease remotely resembling it, among the persons working or residing on the farm, and that the few cases which had occurred in the Hendon district during 1885, had been

among families residing at a distance from the farm, and in no way connected with it.

At this stage of the inquiry, it became evident that, if the theory which had been started incriminating the Hendon farm was to be maintained, it would be necessary to establish that some new condition affecting the health of the cows had come into operation at, or soon after the beginning of November. Inquiry elicited that three cows, which had newly calved, had been purchased at Derby Market, and admitted to the farm on November 15th. These cows had been kept isolated from the others in a "quarantine shed" until about the end of November, but their milk had, after the first few days, been added to the supply, which eventually found its way to St. Marylebone, Hampstead, and St. Pancras. On December 4th, four other cows, purchased in Oxfordshire, arrived at the farm, and succeeded the Derbyshire cows in the quarantine shed. The next important part is that after their period of quarantine, the Derbyshire cows were transferred to a shed called the "large shed," where were over forty other cows; the milk from this shed went to the Marylebone dealer, and scarlet fever began among his customers at the end of November, and continued until the supply of milk was stopped. The Oxfordshire cows were kept in quarantine until December 11th, and were then transferred — two to the "large shed," and two to another shed, called the "middle shed." The milk from this shed was sent to the dealer who had shops in Hampstead and St. Pancras; the scarlet fever cases occurred among the customers of this dealer in two groups, one at the end of November (the milk from the cows in the quarantine shed had been mixed with this supply shortly before this time), and again, another larger group in the middle of December (that is, soon after the Derbyshire cows had been transferred to the "middle shed," from which the milk for this dealer came). There remained the fact of the entire immunity of the customers of the dealer in St. John's Wood; it turned out that all the milk for this dealer came exclusively from a third shed, called the "small shed," into which no new cows had been introduced. Now comes a most instructive fact, almost of the nature of an exact experiment. A small, limited, but intense outbreak of scarlet fever occurred among certain poor families residing at Child's Hill, and other places close to the farm; the first case of this group occurred on December 30th. Now, on December 15th, the supply of milk to the St. Marylebone dealer was stopped, and the dairy farmer gave directions that the whole of the milk from the large shed should be given to the pigs, or thrown into a pit dug for the purpose. Certain poor persons residing in the neighborhood, hearing of this "waste" of milk, succeeded in obtaining, on December 16th and subsequently, a quantity of milk, surreptitiously, from the cowmen. It was among these people that the outbreak of scarlet fever above mentioned (Child's Hill) occurred on the following week.

The final stage of the inquiry revealed disease among the cows, but so slight, that the animals had continued to feed well and to yield their usual quantity of milk; all that could be noticed were vesicles and small ulcers on the udders and teats. On December 31st and following days, a thorough inspection of all the cows was made by Mr. W. H. Power, Dr. Klein, F. R. S., and Dr. Cameron. On two of the Derbyshire cows (November 15th), scars were found on the udders and teats, of a kind that satisfied the observers that they had suffered from the malady; and one of the cowmen subsequently remembered that the first case of sore udder and teats, which he had noticed, was in one of these Derbyshire cows. Further, it was found that on December 31st, two of the Oxfordshire cows had the affection, and that the other cows in the "middle shed" with them had it in an earlier stage; nearly all the cows in the "large shed," where the Derbyshire cows had been stalled, had this vesicular disease of the udder and teats in different stages.

It will be remembered that, among the customers in St. John's Wood who drunk the milk from the "small shed," no cases of scarlet fever had occurred, and that no new cows had been introduced into that shed, but at the inspection on December 31st, two early cases of the disease were detected among the cows in the "small shed"; and corresponding "to a nicety with the appearance, for the first time, of the cow disease among the animals of the smaller shed," came the report of cases of scarlet fever among the customers of the dealer in St. John's Wood. Finally, when the supply of milk was completely stopped, then the peculiar incidence of scarlet fever, on the persons who drank the milk from this farm, also ceased.

Though the disease appeared, at first sight, to be purely local in the cow, and though the general symptoms were, undoubtedly, very slight, yet Dr. Klein found reason for regarding it as a general or constitutional disease, and one that might not improbably be communicable from cow to cow. Upon these points, more knowledge is urgently needed, and it is satisfactory to learn that two of the affected cows have been purchased, and placed under Dr. Klein's observation in the Brown Institution. His report on the clinical features and on the pathology of the disease will be awaited with impatience.

THE INFLUENCE OF FLUIDS (BOISSONS) ON NUTRITION AND IN THE TREATMENT OF OBESITY.

PROFESSOR ALBERT ROBIN in the *Gazette Medicale de Paris*, January 30 and February 6, has discussed this question, and his conclusions are thus summed up in the *Edinboro' Medical Journal* for April. There are two views held: the one, that liquids are inactive; the other, that they are of real influence. He accepts Genth's position — that water introduced into the stomach in large quantity augments the proportion of urea and salts in the urine. But the further question is, Is this due to a more thorough washing of the urea already formed, or to an augmentation of disintegration? He thinks it is partly due to the former; and that the tissues being more thoroughly freed from the products of their disintegration, oxidation processes will be favored. Forster found not only increase of urea, but also of sulphur compounds, which were doubtless due to the breaking up of albuminoids. The next point to settle is whether the augmentation of the urea depends on increase in organic disintegration or on an exaggeration of combustion. From Genth's experiments and his own he concludes that the ingestion of a large quantity of water augments combustion — that is, oxidation without augmenting equally organic disintegration. Obesity has two causes: in the one, assimulation is augmented; in the second, destruction (*désassimilation*) is diminished. In the first class, water ought to

be strictly curtailed or interdicted; in the second, the ingestion of a considerable quantity of water will entail a marked loss of fat. But the question has to be answered, How can we distinguish these two classes? This is accomplished by finding whether the quantity of urea is increased, diminished, or stationary. An increased excretion of urea shows that there is an increased assimilation, while on the contrary a diminution of urea indicates very clearly a diminished oxidation. An individual makes little urea, either because he eats little or because oxidation is affected. In the first case, he eliminates as much nitrogen and carbon as he ingests, and he does not, therefore, become fat; in the second, the balance is in favor of ingestion, and he fattens. But the more numerous cases are those in which the urea is normal. In these cases, instead of estimating the urea, it is necessary to estimate the co-efficient of oxidation; this is raised when obesity is from excess of assimilation, lowered when from *désassimilation*. It therefore follows that fluids ought to be freely administered in obesity when there is a small excretion of urea, or when the co-efficient of combustion is diminished; but fluids are to be abstained from in those who secrete much urea, or in whom there is an increase in the co-efficient of combustion. He illustrates the above contentions by some successful cases.

REPORTED MORTALITY FOR THE WEEK ENDING JUNE 12, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diph. and Croup.	Diarrhœal Diseases.	Scarlet Fever.
New York	1,439,039	597	224	17.17	18.36	6.80	4.76	1.87
Philadelphia	971,363	312	95	13.76	16.96	4.80	2.58	1.28
Brooklyn	690,000	—	—	—	—	—	—	—
Chicago	630,000	—	—	—	—	—	—	—
Boston	390,406	138	41	8.76	21.17	5.11	2.19	—
St. Louis	400,000	155	70	22.75	9.66	2.60	4.55	—
Baltimore	417,220	—	—	—	—	—	—	—
Cincinnati	325,000	—	—	—	—	—	—	—
New Orleans, June 5th,	238,000	127	51	24.49	—	4.74	17.38	—
Buffalo	202,818	—	—	—	—	—	—	—
District of Columbia	205,000	76	30	14.52	18.48	—	7.92	—
Pittsburgh	190,000	86	54	18.56	11.60	3.48	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	118,070	45	12	15.55	15.55	6.66	2.22	2.22
New Haven	78,000	—	—	—	—	—	—	—
Nashville	60,000	28	12	28.56	7.14	—	21.42	—
Charleston	60,145	43	20	25.63	6.99	—	—	—
Worcester	68,382	10	5	—	20.00	—	—	—
Lowell	64,051	20	7	—	10.00	—	—	—
Cambridge	59,660	16	5	18.75	13.00	13.00	—	—
Fall River	56,863	12	5	8.33	—	—	8.33	—
Lynn	45,861	17	5	16.66	33.33	5.88	—	—
Lawrence	38,825	13	4	7.69	23.07	—	7.69	—
Springfield	37,577	11	4	9.09	27.27	—	—	—
New Bedford	33,393	8	3	12.50	—	—	12.50	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	7	2	—	—	—	—	—
Holyoke	27,894	10	5	30.00	10.00	—	20.00	—
Chelsea	25,709	10	—	—	10.00	—	—	—
Taunton	23,674	3	1	33.33	—	—	33.33	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	4	3	—	—	—	—	—
Brockton	20,783	4	1	—	25.00	—	—	—
Newton	19,759	6	2	—	—	—	—	—
Malden	16,407	4	0	25.00	25.00	—	—	25.00
Fitchburg	15,375	8	0	—	—	—	—	—
Waltham	14,609	1	1	100.0	—	—	—	100.0
Newburyport	13,716	2	—	—	—	—	—	—
Northampton	12,896	—	—	—	—	—	—	—
Massachusetts Towns	—	—	—	—	—	—	—	—

Deaths reported 1,773: under five years of age 662: principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 291, consumption 257, lung diseases 163, diarrhœal diseases 107, diphtheria and croup 82, scarlet fever 19, measles 26, whooping-cough 14, malarial fever 12, typhoid fever 11, cerebro-spinal meningitis eight, erysipelas eight, puerperal fever four. From measles, Baltimore 17, New York six, Philadelphia and Boston one each. From whooping-cough, New York five, Nashville two, Philadelphia, Baltimore District of Columbia, Charleston, Cambridge, Springfield and Holyoke one each. From typhoid fever, Philadelphia six, Baltimore and Pittsburgh two each. New York one. From malarial fevers, New York and Philadelphia, four each, New Orleans three, Pittsburgh one. From cerebro-spinal meningitis, New York four, Philadelphia three, Baltimore one. From erysipelas, Baltimore three, New York and Providence two each, Boston one. From puerperal fever, District of Columbia three, New York one.

Cases reported in Boston: scarlet fever 27, diphtheria 21, measles 21, and typhoid fever eight.

In 20 cities and greater towns of Massachusetts, with a population of 995,509 (population of the State 1,941,465), the total death-rate for the week was 15.26 against 17.09 and 17.73 for the two preceding weeks.

For the week ending May 29th, in the Swiss towns, there were 38 deaths from consumption, lung diseases 33, diarrhœal diseases 14, whooping-cough eight, measles five, diphtheria and croup four, scarlet fever, erysipelas and typhoid fever, each one.

The death-rates were: at Zurich 9.5; Geneva 16.2; Basle 20.0; Berne 28.9.

In the 28 greater towns of England and Wales, with an estimated population of 9,033,817, for the week ending May 31st the death-rate was 17.4. Deaths reported 3,033: infants under one year of age 669; acute diseases of the respiratory organs (London) 225; measles 90, whooping-cough 76, diarrhœa 36, diphtheria 28, fever 25, scarlet fever 23.

The death-rates ranged from 12.2 in Nottingham to 32.8 in Bolton; Birmingham 18.7; Blackburn 28.7; Bradford 17.4; Hull 16.1; Leeds 19.2; Leicester 17.9; Liverpool 19.2; London 15.5; Norwich 12.5; Sheffield 16.3; Sunderland 19.2.

In Edinburgh 19.7; Glasgow 24.8; Dublin 26.0.

The meteorological record for week ending June 12, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps: —

Week ending Saturday, June 12, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,... 6	30.102	62.7	74.4	50.1	59.0	60.0	78.0	65.7	W.	S.E.	W.	2	6	10	O.	C.	C.	—	—
Monday,.. 7	30.065	63.0	70.0	57.9	60.0	60.0	90.0	70.0	W.	S.	W.	8	10	14	O.	O.	O.	—	—
Tuesday,.. 8	30.001	66.0	76.9	57.3	48.0	32.0	63.0	47.7	N.W.	N.W.	W.	18	16	11	C.	C.	C.	—	—
Wednes., 9	29.017	67.6	79.7	56.1	68.0	34.0	73.0	58.3	W.	S.W.	W.	8	14	12	C.	F.	R.	—	—
Thursday, 10	29.674	65.8	80.3	55.8	80.0	68.0	73.0	73.7	W.	S.E.	N.	4	9	8	F.	F.	C.	—	—
Friday, ...11	29.884	60.6	68.4	54.2	75.0	83.0	96.0	84.7	N.E.	E.	E.	8	9	1	C.	F.	C.	—	—
Saturday, .12	30.125	57.1	60.1	54.1	60.0	85.0	86.0	77.0	N.E.	E.	S.E.	18	13	3	C.	C.	C.	.8	.07
Mean, the Week.	29.965	63.3	72.8	55.1				68.2											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JUNE 12, 1886, TO JUNE 18, 1886.

BILLINGS, J. S., major and surgeon. Granted two months' leave of absence, with permission to go beyond sea, to take effect July 9, 1886. S. O. 138, A. G. O., June 16, 1886.

WATERS, WM. E., major and surgeon. Ordered from Department East to Department Columbia.

MERRILL, JAS. C., captain and assistant surgeon. Ordered from Columbus Barracks, Ohio, to Department Columbia, to take effect upon the expiration of his present leave of absence.

ROBINSON, SAMUEL Q., captain and assistant surgeon. Ordered from Department of Columbia to Department of Texas.

OWEN, WM. O., JR., first lieutenant and assistant surgeon. Ordered from Department of Columbia to Department East. S. O. 133, A. G. O., June 10, 1886.

LANDERDALE, J. V., captain and assistant surgeon. Ordered for duty as post-surgeon at Fort Concho, Texas. S. O. 70, Department of Texas, June 12, 1886.

COMEGYS, EDWARD T., captain and assistant surgeon. Ordered for duty as post-surgeon, at Madison Barracks, Sackett's Harbor, N. Y. S. O. 60, Division of the Atlantic, June 15, 1886.

BLACK, C. S., first lieutenant and assistant surgeon. Ordered from Fort Stockton, Tex., to Fort Clark, Tex. S. O. 69, Department of Texas, June 11, 1886.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING JUNE 19, 1886.

SWAN, R., passed assistant surgeon. Detached from "Brooklyn" and wait orders.

LOVERING, P. A., passed assistant surgeon. Detached from Navy Yard, New York, and ordered to "Brooklyn."

ARTHUR, GEORGE, passed assistant surgeon. Ordered to Navy Yard, New York.

RUSH, C. W., passed assistant surgeon. Detached from the "Franklin," and ordered to the "Brooklyn."

HAWKE, J. A., surgeon. Detached from the "Wabash" and ordered to the "Essex," July 1.

SMITH, HOWARD, surgeon. Ordered to the "Wabash."

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE FOR THE THREE WEEKS ENDING JUNE 14, 1886.

MEAD, F. W., passed assistant surgeon. Granted leave of absence for twenty days, June 9, 1886.

GUITERAS, JOHN, passed assistant surgeon. Granted leave of absence for thirty days, June 14, 1886.

WATKINS, R. B., assistant surgeon. Granted leave of absence for thirty days, June 4, 1886.

PETTUS, W. J., assistant surgeon. To proceed to Charleston, S. C., for temporary duty, June 11, 1886.

BOOKS AND PAMPHLETS RECEIVED.

The International Encyclopædia of Surgery. A Systematic Treatise on the Theory and Practice of Surgery by Authors of various Nations, edited by John Ashhurst, Jr., M.D., Professor of Clinical Surgery in the University of Pennsylvania. Illustrated with chromo-lithographs and wood-cuts. In six volumes. Vol. VI. New York: William Wood & Co. 1886.

Transactions of the Alumni Association of the Woman's Hospital in the State of New York. First Meeting, January 20, 1886. (Reprint.)

Annuaire de Thérapeutique de Matière Médicale de Pharmacie et d'Hygiène pour 1886. Par A. Bouchardat. 46 année. Paris: Félix Alcan. 1886.

Texas State Medical Association. Synopsis of Report of the Special Committee on Surgery, presented at the Annual Meeting at Dallas, April 27, 1886.

Report of a Case of Successful Transfusion in Typhoid Fever. By Wm. S. Whitwell, M.D. (Reprint.)

Report of Proceedings of the Illinois State Board of Health. Quarterly Meeting. Chicago. April 15–16, 1886.

Twenty-Ninth Annual Report of the Medical Superintendent of the State Asylum for Insane Criminals, Auburn, N. Y. For the Year ending September 30, 1885. Auburn. 1886.

Typhoid Fever in Philadelphia. By Henry Leffmann, M.D., Port-Physician of Philadelphia, etc. Read before the Philadelphia County Medical Society, November 24, 1885.

Twenty-Eighth Annual Report of the Washingtonian Home. Located at 41 Waltham St., Boston. 1886.

Report on a Case of Insanity following Gunshot Injury to the Head. Central Cyst, Aspiration: Recovery. By Carlos F. MacDonald, M.D., Medical Superintendent State Asylum for Insane Criminals, Auburn, N.Y. (From the American Journal of the Medical Sciences, April, 1886.)

Population for 1875 and 1885. Increase and Decrease by Towns. Commonwealth of Massachusetts. Bureau of Statistics of Labor. 1886.

An Introduction to the Pathology of Cancer and Tumor Formation on the Basis of Evolution. By W. Roger Williams, F.R.C.S. In monthly parts. Part I. Growth. Part II. Reproduction. London: John Ball & Sons.

Seventy-Second Annual Report of the Trustees of the Massachusetts General Hospital and McLean Asylum, 1885. Boston: George H. Ellis. 1886.

A Contribution to the Pathology of Hemianopsia of Central Origin (Cortex-Hemianopsia.) By E. C. Seguin, M.D. (Reprint.)

Dictionary of Practical Surgery. By various British Hospital Surgeons. Edited by Christopher Heath, F.R.C. S., etc. Philadelphia: J. B. Lippincott Co. 1866.

Studies in Pathological Anatomy. By Francis Delafield, M.D., Professor of Pathology and Practical Medicine, College of Physicians and Surgeons. Vol. II. Part 2. Chronic Phthisis. Lobar Pneumonia. Plates xiii.–xxxix. June, 1886. New York: Wm. Wood & Co. 1886.

On Inversion of the Uterus with Eleven Cases successfully treated by the Sigmoid Repositor. A Post-Graduate Lecture Delivered at the Chelsea Hospital for Women. By James H. Aveling, M.D. London: J. & A. Churchill. 1886.

Memoir of Austin Flint, M.D., LL.D. By A. Jacobi, M.D., President of the New York Academy of Medicine. (Reprinted from the Medical Record, April 24, 1886.)

Traité Elémentaire d'Anatomie Médicale du Système Nerveux par Ch. Féré. Publications du Progrès Médical. Paris. 1886.

Lecture.

HOMŒOPATHY AS VIEWED BY A MEMBER OF THE MASSACHUSETTS MEDICAL SOCIETY.[1]

A LECTURE DELIVERED APRIL 15, 1886, BEFORE THE HAHNEMANN SOCIETY OF THE BOSTON UNIVERSITY SCHOOL OF MEDICINE,

BY VINCENT Y. BOWDITCH, A.B., M.D., (HARV.),
President of Boylston Medical Society, 1884-5.

Question VI. "*There are statistics showing that the homœopathic practice is more successful in the treatment of disease than that of the 'old school.' What statistics are there to prove the contrary?*"

It is with difficulty, I fear, that I can answer your question satisfactorily to yourselves, gentlemen, from the fact that even were I to tell you that there are or are not statistics to show the superiority of one form of medical practice over any other, I should immediately add that to my mind such forms of comparison in a science, necessarily far from exact, are little less than worthless from their frequent unfairness and misleading character, and having this opinion, I am scarcely in a position to discuss the question as you may wish. Far be it from me to disparage the value of statistics resulting from the observations of disease so carefully classified and tabulated that much valuable information may have been brought to light which otherwise would have remained unknown. I speak now of that form of statistics which, whether from mere partisan zeal or from true love of science, attempts to make a broad comparison between various methods of practice.

When we consider the innumerable sources of error in making our diagnoses; when we recall the frequent differences of opinion among physicians as to the nature of a given case, when, too, we take into consideration the innumerable shades of difference between any two cases or sets of cases of one disease, to say nothing of the widely differing methods of those who profess to belong to one "school of medicine," how is it possible for us to reach conclusions with any thought of fairness by means of pages of figures seeking to compare results of treatment in rival institutions? I confine myself now to medical as distinct from surgical practice. In the latter we deal with tangible facts proven to us by the aid of our special senses, but in the former we must reluctantly admit that our diagnoses are too often reached by groping in the dark, and that our treatment is largely a matter of experiment.

Our own medical journals are filled with statistical records of certain diseases, which, in the hands of some physicians, seem to have yielded with unusual promptness to the boasted curative power of some one drug or method of treatment. We hear, possibly, of special epidemics of diphtheria having been successfully treated by such and such a remedy; or we read, it may be, of the marvellous effects of some one drug in the treatment of scarlet fever; in fact, scarcely any disease exists which at one time or another has not had its special remedy proclaimed to the medical world by some enthusiastic observer. Full of zeal we test the virtues of these remedies in our own practice, but alas! how frequently are we doomed to disappointment and compelled to admit that as far as treatment of these and other dire diseases is concerned, medical statistics have not aided us so much as we may have had reason to hope.

[1] Concluded from page 588.

Has Homœopathy proved the infallibility of belladonna in the treatment of scarlet fever? If so, why is it that we still dread the advent of an epidemic of that disease amongst us; and why have our Boards of Health felt the absolute necessity of keeping our cities free from filth unless it be that cholera has, within the last two years, decimated the population of portions of France, Italy, and Spain, in spite of the boast of Hahnemann and his followers, fifty years ago, that in camphor we have an infallible remedy for that dread scourge?

Gentlemen, let us rather shun the danger of falling into that narrowness of mind which confines itself to statistical proofs alone, and is unable to take a broad and general survey, as it were, of the whole history of medicine to satisfy itself as to the justice of the claims of adherents to any sect or methods of practice? Is it not fairer in this particular chapter of the history of medicine to glance over the records of the past seventy or eighty years, to note the gradual changes which have taken place in medical science, and to ask if Homœopathy has taken the place that Hahnemann claimed for it when he first proclaimed his views? Is it probable that the world at large, outside of the medical profession, is so blind and obtuse that it can have failed for over a half a century to be convinced of the infinite superiority of Homœopathy, pure and simple, over other forms of practice? Is it to be supposed that the people of Austria, Prussia, Russia and Hungary are so devoid of courage that they would have submitted without expostulation to the prohibition of Homœopathy by the government, fifty years or more ago, had they been convinced of its superior life-saving power? Finally, I ask if it seems to you rational to believe that in Germany—for so many years the leader in all scientific matters, and whose greatest thinkers have always shown a readiness to investigate all subjects when properly presented to them—is it rational, I say, to believe that jealousy and wounded pride merely should have caused such a universal outcry against a sect who boasted the overthrow of all previous medical knowledge?

In histories of Homœopathy one sees frequently mentioned, as favoring Hahnemann's principles, the name of Hufeland, a physician of the "old school." No more celebrated name can be found in the annals of German medicine of the last century, but what was his position at the last, after thoughtful investigation of Homœopathy? Not that he embraced its principles, but that he believed it had its influence upon the old methods of practice, and that persecution of its adherents was useless and wrong.

I can but regard it as a significant fact that in Vienna, where Homœopathy may now be freely practiced, that the Gumpendorfer Hospital, founded forty years ago, remains still a small building, while its neighbor, the Algemeines Krankenhaus, has increased its holding capacity steadily up to the present time, and now contains some three thousand beds. Granting that the latter hospital was founded many years before its homœopathic neighbor, is not a period of nearly half a century sufficient to have shown a very different comparative result in favor of homœopathic practice had the claims of Hahnemann been substantiated by his adherents? I cannot believe that either governmental influence, the possible bigotry or persecution of the "old school," or popular prejudice could have possibly succeeded in resisting the power of the "new

art of healing," which Hahnemann proclaimed was to revolutionize the medical world, had it in any way justified the expectations of its first followers.

Thus far I have discussed the merits of statistics referring to the curative power of medical treatment by different "schools," and have given you my opinion of their worth. Let me say a few words in regard to the statistics given by Dr. Wesselhoeft in his address of last year, in which he gives figures showing the diminished mortality list of patients under homœopathic treatment in various institutions. Although filled with grave doubts as to the fairness of all such comparisons, it is only just to say here that I think no unprejudiced person will now deny the influence of Hahnemann together with the necessary reaction already growing in the practice of the "old school," in convincing the physicians of that day that their methods were not only not essential to recovery from disease, but on the contrary were often injurious. Bloodletting, purging, blistering and dosing carried to fearful excess were the order of the day, methods which doubtless were the cause oftentimes of a larger mortality list than those which advocated less heroic treatment. Not by means of statistics, but from the fact that medical practice has changed so greatly in the last half century, am I willing to grant the beneficial influence of Homœopathy, which, in advancing ideas even more extravagant than those of its opponents, yet did its part in checking the excesses of that time, and in causing the pendulum to swing in the opposite direction.

I have already said that in the domain of surgery we deal more with tangible facts, and are not so much embarrassed, as in strictly medical practice, by the necessity of depending often upon theoretical knowledge, upon our powers of imagination, and upon the results of imperfect observations. Hence it is that statistics in this field of medicine are of greater worth than can possibly be the case where we do not deal with what is apparent to our special senses. Perhaps some of your school will say that you put surgical practice entirely out of the question; that it is upon medicine alone that you wish the discussion continued, but I can only repeat what I have already said, that the "regular" physician is embarrassed in all discussions upon the subject by the great differences of opinion existing among the homœopathists themselves as to the necessity of surgical interference in certain cases. If there are homœopathists who do not believe that cancer can be cured without the aid of the knife, that cataract will disappear by means of drugs, and that nasal polypi can be removed by other than mechanical means, yet there are those that seem to have implicit faith in the efficacy of medicines alone for the cure of these diseases. However this may be, gentlemen, I ask you to think impartially of the questions which I am about to ask you, and to answer them without prejudice, regardless of statistical evidence.

Is it due to homœopathists or to members of the "old school," that ovariotomy is now resorted to so commonly and with such marvellously successful results? Is it to homœopathy or to members of the "regular school" that the patient suffering with cataract owes the hope that he may yet be saved from total blindness; or, to use still another example, who first recognized the nature of adenoid growths in the vault of the pharynx, and recommended their removal by mechanical means, a simple operation, attended with blessed relief to the sufferer?

I could mention the laryngoscope, the rhinoscope, the speculum, and other inventions of comparatively recent date, all of which have increased our medical knowledge in their special departments, but I desist, gentlemen, and merely ask you, in all courtesy, if, in the ranks of homœopathy, you can point to the names of men who have given such aid to medical progress as those of Lister, Keith, Virchow, Bamberger, Wagner, Laugenbeck, Gross, Flint, Sims, and hosts of others, whose names are equally celebrated among the laity and the medical profession throughout the civilized world? If I should be proved wrong in thus making a comparison so favorable to my own side of the question, I trust that I should not be such a hopeless partisan as to be unwilling to acknowledge myself in error when convinced of my mistake.

When you ask me for statistical evidence, gentlemen, such are the thoughts which come forcibly to my mind, and I am unable to explain them satisfactorily to myself in any other way than by concluding that, however Hahnemann may have tended to modify the extravagant medical practice of his day by showing that heroic methods were not always essential to recovery from disease, yet it still remains to be satisfactorily proved, that, through him, medical science has received that vast impetus which he and his most zealous disciples would claim.

Question VII. "*How does the 'old-school' practice explain the action of mercury in syphilis, alum in constipation, arsenic in digestive disorders and some cases of epidemic cholera, and belladonna in pharyngitis, if not according to the law of similars?*"

In my answer to Question 5, I have already said that the "old school" has for ages recognized the fact that certain drugs which cause definite symptoms often seem to check similar symptoms arising from a different cause. This has never been denied, but the main point in such a discussion is, not whether the "old school" can or cannot explain the action of the above-mentioned drugs otherwise than by the "law of similars," but whether the homœopathist, or any one else, is justified, at the present stage of medical science, in proclaiming the existence of an absolute law in medicine. In the first place, granting, for the sake of argument, that it is possible to classify symptoms so minutely that we can always be sure of selecting the proper remedy for the disease, I deny the right of any one to say that every case of recovery has been cured by the use of the drug indicated. Again, can syphilis always be cured by the use of mercury? will pharyngitis, characterized by a dryness and redness of the fauces and pharynx, always yield to belladonna? nay, more, can we say absolutely, in cases of the latter disease which get well, that they would not have recovered without the use of any drug whatever?

There are those among the "regular" physicians who are even skeptical as to the use of mercury in syphilis, and believe that a general tonic treatment is, in many cases, the greater factor of the two in accomplishing favorable results in this disease. Be this as it may, the "old school" certainly use the drug extensively in syphilis, and with apparent benefit in many cases, and they recognize the similarity between the symptoms of the disease and the effects of the drug when used in excess.

In the case of alum, usually an astringent or an irri-

tant, according to its use in small or large doses, in cases of obstinate constipation from lead-poisoning, it has not infrequently been found to be an efficient laxative, the reason for which is not satisfactorily explained; or, if you will, its action in health upon the intestines, when given in small doses, is similar to that caused by lead-poisoning; but again, I ask if it is possible to cure every case of colica pictonum by this remedy; also, if we do not often find more effectual remedies than alum for the abdominal symptoms of this disease?

The same reasoning may be used in speaking of arsenic, an irritant to the whole digestive tract, if used in large quantities, a tonic when given in moderate doses. As to its beneficial action in certain forms of diarrhœa, characterized by the presence of undigested food in the stools, it is possible to explain its apparent obedience to the so-called law of similars by supposing that, as the digestive functions of the stomach are improved by the use of the drug oftentimes, the cause of the intestinal irritation in the form of undigested food is removed, with consequent improvement in the symptoms.

Virchow states it as a curious fact, that the symptoms and pathological appearances of some cases of acute arsenical poisoning resemble closely those of epidemic cholera, and arsenic has been proposed as a remedy in that disease; but certainly, if it had been proved to be such an efficient weapon against the scourge, we should have heard more of it in the past two years, therefore I cannot consider the use of this drug of great weight in arguments to prove the truth of the homœopathic maxim, "*similia similibus curantur.*"

I trust that what I have said in answer to this question will be sufficient to explain to you the position of the "old school," namely: that while they have always acknowledged that certain drugs appear, in disease, to cure symptoms similar to those which they produce in health, a fact to be oftentimes satisfactorily explained by very simple reasoning, as in the case of arsenic just given, yet they feel that the position of the homœopathists in believing that an established "law of similars" exists for the use of drugs in disease, is not sufficiently substantiated by facts to be tenable.

Question VIII. "*Drs. Wood and Bartholow explain the action of certain remedies as substitutive or antipathic. How does this differ from the law of similars?*"

If I understand your question aright, the answer to it has really be given in what I have just said in discussing Question 7. By the term "antipathic action of a drug," we naturally infer that the effect of that drug in disease is the opposite of its effect when used in health, or in other words, that it can cure, in disease, symptoms which it would produce in the healthy body. Thus in several forms of vesical irritation, cantharides, in itself a marked vesical irritant in certain doses, often proves itself of great service in allaying the most distressing symptoms in that part of the system, a fact well recognized among regular physicians, and yet, in this case, again, we see no evidence of an absolute "law of similars." We know that this drug has certain marked effects upon the vesical tract, but we know equally well, that while its beneficial action in atonic and irritable conditions of that region is often marked, it is by no means an infallible remedy for all cases of vesical irritation.

Let us now give our attention to

Question IX. "*Why should not a physician, thoroughly educated in medical science, and capable of passing examinations required for a degree at any of the so-called 'regular' colleges, or for admission into the State Society, be recognized by those Societies and the profession at large?*"

In signing the Constitution of the Massachusetts Medical Society, every candidate for membership is obliged, before receiving the privileges of the Society, to agree, among other regulations, to the following article, worded to this effect;— that in the practice of his profession, he shall call himself neither homœopathist, eclectic, allopathist, or, in short, any name other than that of "physician" or "surgeon," and under this title, as I have explained to you before, he may practice as his conscience dictates.

Without entering into a discussion foreign to the purpose of this paper, as to the wisdom or utility of all compulsory forms of agreement in a society of this nature, I may say that this regulation represents the standard of the "regular physicians" of this State.

While not sympathizing by any means with all that is advised or required by the rules and regulations of the medical society of which I am a member, the above mentioned rule serves at least as a maxim, in following which we cannot be accused of deliberately giving false impressions to those outside of our medical world.

I am in sympathy with no other rule, (except those relating to personal character), which would possibly exclude from our societies any such candidate as you suggest in your question, if he be willing to agree to this one point alone, which, regardless of society regulations, I believe to be the only logical, the only true basis to stand upon, in our profession.

My answers to your nine questions have been given to you, gentlemen, and although fearful of having detained you too long and of having wearied you with possibly unnecessary repetitions most difficult to avoid in a discussion of this nature, yet I cannot close my paper without adding a few words which I should be unwilling to leave unsaid.

In all controversies it is but fair to hear the statements of both sides, and in preparing my paper I have been deeply interested in reading books which either favor or disapprove of homœopathic doctrines. To obtain a good idea of the opposite views upon the subject of Homœopathy, let me advise you to read Dr. Leo Wolff's "Abracadabra of the Nineteenth Century," and Ameke's "History of Homœopathy," translated by Drysdale. In the latter, one finds a carefully written and interesting book, which, if it did not towards the end descend into much the same vituperative style that it so depreciates in the manners of the "old school," would be much stronger in its effect. In it, one feels keenly the folly of many of the "old school" in their behavior towards Hahnemann and his followers, and is moreover, convinced more strongly than ever of the importance of a much-neglected department of all medical schools, namely, the study of the history of medicine. Never in the historical records of the world has persecution resulted otherwise than in finally exciting popular prejudice in favor of the oppressed, and in putting the halo of martyrdom around those who, if left untouched, would have finally found their just place in the world's estimate. To be candid, gentlemen, I consider that whenever persecution has been practised upon the homœopaths,

it has aided their cause more than any blazoning of their own virtues could have possibly accomplished, and I must confess to believing that the action of the Massachusetts Medical Society in expelling the homœopaths from their ranks, several years ago, has only added fuel to the fire which it hoped to quench.

From what I have said you will, I hope, see my position and what my desire is in thus appearing before you. It is to convince you that while I criticise and am unable to sympathize with the position taken by the homœopaths of to-day, yet I am equally unwilling to believe that all those who adopt the name of any special sect do so for sordid reasons only. We find the true and the false in every path of life, and in the ranks of Homœopathy I truly believe that, while there are many, who, under the cloak of deceit, only wish to further their own selfish, sordid aims, yet there are others whose sole desire is to conscientiously and disinterestedly work for the cause of truth. Would it were possible to convince the latter of what seems to us the inconsistency of their position in taking a special name.

I ask you therefore, gentlemen, who are about to start upon your career as physicians, to look without prejudice, if possible, upon this whole controversy, and by studying the literature of the subject, to judge broadly of the reasons for the birth of Homœopathy, and of the reasons for the violent opposition which it has met. You will find yourselves better fitted for your rôle in life by so doing. I ask you then to go forward in your practice, to refuse all other names than that of "physician," and the "regular school" is not so perfect in its knowledge that it cannot learn from you, if you will patiently and without prejudice prove to them the wisdom of whatever experience may teach you.

In closing, let me say that as I appear before you a stranger, in the somewhat delicate position of a guest who has been asked to criticise his host, I am sure you will appreciate the difficulties which I have encountered when, in endeavoring to give you my candid opinions, as desired by your committee in their note of invitation, I have tried at the same time not to overstep the limits of courtesy. If in the course of my remarks I have seemed to you to say more than frankness demands, I sincerely trust that you will look only at the motives which prompted me to speak to you to-night, and will pardon what may have given offence. That there are many who could have answered your questions more satisfactorily to you, I have no doubt, but I will not believe that there is any one who desires more earnestly than I to see the end of a bitter and unfortunate strife which on both sides has been waged with a spirit oftentimes unworthy of a profession which should teach us better things.

Gentlemen, from the use of cant phrases and figures of speech which smack of a mawkish sentimentality, I shrink instinctively, and I sincerely wish I could express in new and simple words the thought to which I wish to give utterance before I bid you farewell, yet I feel sure you will receive it in the spirit I wish.

We are *all* members of a profession which, when regarded in its true light, above the plane of party strife and mere selfish gain, I regard as the finest and noblest of all, and the feeling grows stronger within me with each year of practice. There is that in it far above the mere desire and ability to cure disease; that which can soothe all regrets for possible failure and disappointment in our daily work — I mean the power of human sympathy; the power which bids the young mother silently and gratefully press the hand that helped her in her hours of trial; the power that impels the dying man at the very last, to turn to him who, though powerless to save, yet by a word, a look, a touch of the hand, gives strength and courage to one just passing to that "undiscovered country from whose bourn no traveller returns." In the midst of discord and disappointment, let us keep this thought before us, gentlemen, and at the end perhaps we may be permitted to see our past life, as it were, stretched before us, and feel that we have done our small share towards making our chosen profession what it should be, "a blessing to all mankind."

Let me now thank you for the honor you have conferred upon me by your invitation to address you, and for your courtesy and kind attention during the evening, with which words I bid you farewell.

Original Article.

REPORT ON THE PROGRESS OF LARYNGOLOGY AND RHINOLOGY.

BY FRANKLIN H. HOOPER, M.D., BOSTON.

THE TYPES OF VIBRATION OF THE VOCAL BANDS.[1]

PROF. D. KOSCHLAKOFF, of St. Petersburg, has made an important study of this subject. His researches were conducted on artificial vocal bands, on the excised larynx according to the method of J. Müller, and on the living subject. Three methods were employed:— 1. the stroboscopic; 2. the graphic; and 3. by means of lines marked on artificial vocal bands. We must refer the reader to the original article for a description of the details of these methods which are made clear by the numerous illustrations that accompany the text. The stroboscopic method as mentioned by Koschlakoff, was originally applied by Oertel to study the movements of the vocal bands, and was referred to by Prof. H. P. Bowditch some years since in his report on physiology as follows: "This method, which was first employed by Plateau in 1836, consists in observing a body having a rapid but unknown rate of vibration at intervals which can be regulated to correspond to the unknown rate. This object can be accomplished by looking at the vibrating body through holes in the edge of a revolving disc. If the rate of the observations coincides with that of the vibrating body, the latter, being observed always in the same phase of its vibration, presents the appearance, owing to the persistence of the impression on the retina, of a body perfectly at rest. If the rate of the observations is a little slower than that of the vibrating body, the latter, being at each observation in a somewhat more advanced phase of its movement, will appear to execute its vibration at a rate corresponding to the difference between the rates of observation and vibration. Thus a body vibrating two hundred times in a second, seen through a stroboscopic apparatus giving two hundred and one observations in a second, will appear to vibrate once in a second. Thus by knowing the rate of the observations and noting the rate of the apparent stroboscopic movement, the rate

[1] Ueber die Schwingungstypen der Stimmbänder Pflüger's Archiv. XXXVIII, Band, April 24th, 1886.

of the vibrating body may be determined. It is also possible by this method to study accurately the appearance presented by a vibrating body in every phase of its movement."

Koschlakoff states that the stroboscopic method can be employed on the living subject without difficulty. He examined two singers by this method (tenor and baritone) and found that in the production of chest as well as falsetto tones the vocal bands vibrate in unison. In chest tones they vibrate throughout their whole length and breadth, the amplitude of the vibrations being very great. The vocal bands also look broader and thicker than when falsetto tones are sung. When the latter tones were produced the vocal bands appeared to be longer, smaller, and their borders thinner, than in chest tones. In falsetto tones, moreover, only portions of the free edge of the vocal bands vibrate, which are separated from the peripheral portions of the bands by a nodal line running parallel to the rima glottidis. The peripheral portions which are behind this nodal line vibrate very slightly. These observations show, therefore, that the normal voice is produced by synchronous vibrations of the vocal bands throughout their entire length and breadth, but falsetto tones arise from the vibration of their free edges.

Koschlakoff's graphic method consisted in having a small hair attached to two artificial vocal bands so arranged that when they were set in vibration the different movements were recorded graphically on a smoked paper of a revolving cylinder. He also painted narrow lines on the edges of the vocal bands and then studied the curves formed by the light reflected from these lines while vibrating.

The experiments with the artificial vocal bands yielded some very interesting results. In some it was found that the vocal bands vibrated in opposite directions; that is, during the emission of a tone while one band moved upward, its fellow moved downward, and these alternate vibrations did not vary during the experiment. In other cases there was a synchronous movement, both bands vibrating together, first moving upward and outward and then downward and inward. The tracings of the vibrations of the artificial vocal bands showed that they were either simple or combined, and each of these varieties were again sub-divided, according as both bands vibrated together or independently, whether they vibrated throughout their entire length and breadth or in ventral segments giving under different conditions simple or multiple tones.

Many of the tracings obtained with the artificial vocal bands have not yet been observed in the living subject, but it is an interesting question, as Koschlakoff says, whether in certain abnormal conditions, the vocal bands do not vibrate alternately instead of synchronously as when the natural voice is produced.

This paper should be read in the original, and the numerous tracings consulted, as it is difficult to do justice to it in an abstract.

THREE CASES OF PRESSURE UPON THE RECURRENT LARYNGEAL NERVE FROM DIFFERENT CAUSES, WITH FIXATION OF THE LEFT VOCAL BAND IN PHONATORY POSITION.

Dr. J. Solis Cohen [2] reports these cases, and offers the following remarks upon the pathology and physiology of the laryngeal nerves and muscles, which, although theoretical, are of interest at the present time, considering the endeavors of laryngologists to clear up some of the moot points pertaining to laryngeal paralyses. "The closing of the glottis and its opening are effected by muscles of antagonistic function; yet the opposing innervations proceed along the same set of fibres from two centres, or from one double-acting centre, or whether it proceeds from separate centres along separate sets of fibres traversing the same trunk, as is most plausible, is a problem for which neither experimental nor pathological physiology has yet furnished the solution. When, therefore, a vocal band stands at continuous rest in the position normally occupied during phonation only, the question arises whether that fixed position is due to tonic spasm or contracture of the muscles, which close the glottis on that side, or whether it is the result of paralysis of the muscle which holds the glottis open. . . . The great office of the laryngeal nerves is to secure space for respiration; their auxiliary office is to provide means for phonation and cough. While it seems, *à priori*, suitable that the importance of the dilators of the glottis should have caused them to be invested with special immunity, rather than with special vulnerability, it may be argued, on the other hand, that as the main office of the motor laryngeal nerves is to maintain the patency of the glottis for breathing purposes, serious injury to those nerves would compromise the integrity of that office. The reply to this argument would be, that an injury completely destructive of the conductivity of the nerve, leaves the vocal band immobile in a position which does not interfere with the respiratory function.

"A hypothetical explanation for these apparent contradictions, based upon general physiological principles, is offered by my brother, Dr. Solomon Solis Cohen. It adopts, in a modified form, the as yet undemonstrated theory of the existence of a cortical motor centre for the larynx, and assumes that the respiratory (abductor) fibres of the recurrent nerve offer less resistance to the passage of nerve-currents than do the phonatory (adductor) fibres, an assumption made highly probable by the ascertained laws of nerve-resistance.

"The direct energization of a muscle of a limb, it is well known, proceeds by way of an anterior nerve-root from the motor cells of the gray matter of the spinal cord — which may be compared to the local battery in a telegraph line — while the impulse which liberates this energy in obedience to the will, proceeds from a centre for voluntary motion in the cerebral cortex — the line battery. It may also be set free by so called reflex action, under the stimulus conveyed from the periphery by an afferent nerve, the peripheral impression becoming the line battery.

"Applying these facts and hypotheses to the larynx, the following conclusions are drawn: The local battery for laryngeal motion is the nucleus of the spinal accessory nerve in the fourth ventricle. From this, proceed two sets of fibres, one, of low resistance, to the dilator muscles; another, of higher resistance, to the constrictor muscles. The ordinary dilatation of the glottis for respiration, which is accomplished by a partial contraction of the dilator muscles, is an automatic function of organic life, under the control of the respiratory centre in the medulla, and takes place with the liberation of the minimum amount of energy by the central motor cells. The respiratory impulses continuously traverse the recurrent nerve, and all other impulses

[2] Transactions of the College of Physicians of Philadelphia, May 5th, 1886.

become superimposed upon them. The effect of a first additional increment of nerve-force, which may be set free under psychic impulse from the cortex, is to stimulate further the dilator muscles, opening the glottis wider, or to its full extent, as in forced inspiration. More intense psychic stimulation, awakening sufficient energy to overcome the resistance of the adductor fibres of the recurrent nerve, elicits, in addition to the continuing action of the dilator muscles (which is necessary to complete the tension of the vocal bands posteriorly), the response of the constricting muscles, and the vocal bands are brought into position for phonation. Reflex stimulation of the centre by an afferent nerve excites the coughing action of the constricting muscles.

"If this explanation of the normal action of the vocal bands be correct, the positions they assume under pathological conditions become easily applicable.

"An irritative lesion of the nerve tract, or of the centre, or such lesion of the cortex, or of the (hypothetical) cortico-medullar tract, as should remove psychic control from nuclear cells continuing to generate nervous force, would produce, according to its degree at one extreme, increased action of the dilating muscle (position of forced inspiration, extreme abduction), or at the other extreme, spasm of all the muscles, bringing the vocal bands into the phonatory position (complete adduction), and between these extremes, would be the various manifestations of tremor, spasmodic cough, and even equilibrium (non-paralytic) in the cadaveric position.

"In depressive lesions, when the nerve-current is too weak to overcome the resistance of the adductor nerve-fibres — as when the will fails in hysteria — or when there is partial interference with the generation or transmission of nerve-currents, as in some cases of disease or injury of the nerve tract, the constricting muscles would receive little or no influence, the dilating muscles would continue to act, and there would be presented the well-known picture of adductor paralysis, best exhibited in hysterical aphonia. In hysteria, perfect cough is still possible under reflex stimulation. In organic diseases presenting the same picture, cough should be impaired, but not absent, as organic disease of this nature is not likely to be bilateral.

"Destructive lesions of tract or nucleus, if complete, cut off entirely the nervous stimulation; all the muscles fail to act, and the vocal bands are left in the cadaveric position (paralytic, complete relaxation).

"This hypothesis, for the sake of simplicity, omits to take account of normal or pathological imhibition of respiratory acts, or of a possible complication offered by the unknown relations of the sympathetic system with the laryngeal function of respiration."

Dr. Cohen is inclined to accord with the views expressed by Dr. Krause, of Berlin, that the phenomenon of permanent fixation is due to the overpowering contracture or tonic spasm of constricting muscles of the larynx, and not to a paralysis of a dilating one. On the other hand, Dr. Semon, of London, and other painstaking investigators, hold that the phenomenon is due to neurotic paralysis of the posterior crico-arytenoid muscle, and that organic disease of the roots or trunks of the motor nerves of the larynx always attacks the abductor fibres earlier than any others, and sometimes, even exclusively. This view is supported by the evidence of degeneration of the abductor muscle found in almost, if not every such case examined *post-mortem*, little or no similar atrophy being discovered in the tissues of the antagonistic muscles.

The autopsies, however, of such cases are, as yet, few in number, and it is important to bear in mind that degeneration of the abductor muscle may be of vascular origin, as suggested by Dr. Robinson, of Dunham, in his essay on "Endemic Goitre." He points out that the posterior crico-arytenoid muscle is supplied by the inferior laryngeal artery alone, and that atrophy of the abductor may result wholly from interference with its blood supply. Bäumler's cases are interesting in this connection. He found that the arteries in the immediate neighborhood of the diseased recurrent nerve showed marked changes, and were so thickened as almost to cause obliteration of the vessels. There was chronic indurative neuritis present, which was the result either of inflamed bronchial glands, or of inflammation derived from the nutrient bloodvessels.

At the recent meeting of the American Laryngological Association, Dr. Cohen reported a case of bilateral abductor paralysis of many years' standing, the left vocal band having been first affected, yet the autopsy showed that the left recurrent nerve was natural, while the right presented a distinct line of demarcation between the healthy and unhealthy fibres; but instead of the right muscle being atrophied, it was the left muscle that had undergone wasting.

Careful work is in progress by so many different investigators, that we may confidently expect that our knowledge of the physiology and pathology of the laryngeal nerves and muscles will in time be much more exact than it is at present.

INTUBATION OF THE LARYNX.

This surgical procedure for the relief of stenosis of the larynx has excited considerable discussion the past year. Its advocates claim that it has many advantages over tracheotomy, and that it will supercede that operation in cases of croupous or diphtheritic laryngitis, especially in young children. Intubation of the larynx was first proposed and practised in this country by Dr. Joseph O'Dwyer, of New York. Up to the present time there have been thirty-five operations reported by different surgeons, with thirteen recoveries.

Dr. O'Dwyer's instruments consist of a gag, five laryngeal tubes, an applicator, extractor, and a gauge. The tubes range in length from $1\frac{3}{4}$ to $2\frac{1}{2}$ inches. Their calibre is only $\frac{1}{4} \times \frac{1}{4}$ of an inch in the largest, and not more than half this capacity in the smallest. The tube is introduced within the larynx and trachea through the mouth, and remains there. In one case reported it was retained a week without any detriment whatever. The upper end of the tube rests upon the ventricular bands, and does not interfere with the movements of the epiglottis. The lower end is about half an inch from the bifurcation of the trachea. Slight ulceration may be produced by the head and lower end of the tube when retained for a long time. In most cases semi-solid food is taken well from the beginning, but it usually takes twenty-four hours for the child to learn to swallow liquids.

Dr. F. E. Waxham, of Chicago, has tabulated the various advantages of intubation over tracheotomy as follows:

1st. No opposition is met with on the part of parents and friends; quite a contrast to the difficulty with

which we usually meet in obtaining the consent to perform tracheotomy.

2d. It relieves the urgent dyspnœa as promptly and effectually as tracheotomy, and if the child dies, there is no regret that the operation has been performed, and no discredit attached to the physician.

3d. There is less irritation from the laryngeal tubes than from the tracheal canula. As the tube is considerably smaller than the trachea, it does not press firmly at any portion, excepting at the chink of the glottis.

4th. Expectoration occurs more readily than through the tracheal tube.

5th. As the tube terminates in the throat, the air that enters the lungs is warm and moist from its course through the upper air passages, and consequently there is less danger of pneumonia from this source.

6th. It is a bloodless operation.

7th. It is more quickly performed, and with less danger.

8th. There is no wound to close by slow granulation, and consequently convalescence is more rapid.

9th. There is no wound that may be the source of constitutional infection.

10th. The patient does not require the unremitting care of the physician, as in tracheotomy.

11th. It is a more successful method of treating croup, either diphtheritic or membranous, than tracheotomy.

In a recent number of the *New York Medical Record* (June 5th, 1886), Dr. O'Dwyer reports the results of the treatment with his tubes of a case of syphilitic stenosis of the larynx in an adult. The stricture of the larynx was such that immediate tracheotomy had been advised by another surgeon. Dr. O'Dwyer introduced through the stricture his smallest adult tube. It remained in the larynx fifty-six hours, when it was removed on account of the pain it caused. During the time the tube was in the larynx the patient swallowed solids without much difficulty, but fluids produced more or less coughing. Five days later a larger tube was inserted, which, after having been in the larynx twenty-four hours, was coughed out. The following day a still larger tube was used, which caused some pain and irritation, and was expelled after having been in position fourteen hours. The patient remained under treatment about three weeks, when she was discharged from the hospital with ample breathing space in the chink of the glottis, and no dyspnœa. She was readmitted two and a half months later, as the dyspnœa had returned. Examination showed that this was caused by subglottic stricture, as there was no material change in the larynx since she was discharged. Treatment was resumed for twenty-seven days, with tubes of gradually increasing size, when the stricture was again sufficiently dilated. The tube is now introduced once in two weeks, and allowed to remain in over night. Dr. O'Dwyer states that he soon intends to increase the interval to a month, which he believes will be often enough to prevent a recurrence of the stricture.

THE FUNCTION OF THE THYROID GLAND.

Most works on physiology pass over the thyroid gland with a very superficial mention. It is said to exercise some part of importance in fœtal life, no one knows what; in extra-fœtal life it is said to partially atrophy, and to be merely a useless organ to the adult, rather worse than useless, as in goitre it becomes inconvenient and sometimes dangerous. This shows how little we know about human physiology. Recent researches have shown that the thyroid gland has an intimate and all-important relation to the highest functions of man — those of his brain. This fact was first developed by the extirpation of the gland in goitre — a proceeding which, according to the received views, ought to be wholly indifferent to the economy. Such is far from the case. After the total extirpation of the gland, the subjects steadily lose their mental vigor, the features become heavy, the speech slow and dull, the muscular system weakens, and the skin turns rough, thick and hard; in short, a condition gradually supervenes strikingly like that called by Charcot *myxœdema*, or the pachydermatic cachexia. They become *cretins*. If ever so little of the gland remains, it is sufficient to prevent these changes, but its complete removal surely entails them. Experiments on dogs and cats yield similar results. The animals do not long survive, but are attacked with convulsions, somnolence and paralysis, which prove fatal.

Two theories have been advanced to explain these changes. One is that of Liebermeister, who maintains that the thyroid gland is the regulatory organ of the encephalic circulation, and that its abstraction throws this into chronic disorder. The other is that of Professor Bruns, of Tübingen. He believes that the thyroid is either a depuratory gland which excretes certain substances poisonous to the nervous system, or that it fabricates certain substances indispensable to nervous vigor — which of the two he is uncertain. The very important practical conclusion remains uncontested, that in all operations for goitre a small portion of the gland should be allowed to remain. Mr. Victor Horsley's investigations, as described in his course of Brown Lectures, all point to a like conclusion.[3]

PARTIAL AND SOMETIMES GENERAL CHOREA MINOR FROM NASOPHARYNGEAL REFLEX.[4]

Dr. A. Jacobi points out, in a suggestive paper, that the cause of a number of convulsive muscular movements, such as blepharospastic winking with the eyelids, momentary and frequent frowning, twitching of one or both angles of the mouth, wrinkling of the muscles of the nose, shrugging of a shoulder, or semi-convulsive twitching of an arm, may be sought in the abnormal condition of the nasal and pharyngeal mucous membrane. Occasionally the muscular irregularities extend to the diaphragm and over the whole body, and a genuine chorea minor is the result. The large majority of patients of this class are children. Besides the muscular anomalies mentioned, there are some others which draw our attention to the primary cause of the disorder. There is frequent snuffing up, snuffing out, a hawking, and a short hacking cough. The examination of the fauces reveals congestion of the whole surface, swelled muciparous glands, and enlarged tonsils. The tonsils need not be congested; they are even apt to be unusually pale from the presence of compressing cicatricial tissue. The pharyngeal congestion is observed to ascend in the direction of the posterior nares. The inspection of the nose reveals thickening and congestion of the cavernous tissue, especially of that covering the inferior turbinated bones. The nostrils, or one of them, are always nar-

[3] Med. and Surg. Reporter, August 15, 1885.
[4] Amer. Jour. of Med. Sciences, April, 1886.

row, and the septum frequently deviated. Many of the patients have been life-long snorers. The reflex symptoms are produced by the local irritation in the nose and nasopharynx acting on the terminal ends of the trifacial nerve. Mention is made of the studies of Voltolini, Haenisch, Sommerbrodt, and Hack on the subject of nasopharyngeal reflexes, and also to Tornwaldt's researches "On the bursa pharyngea in its relation to the diagnosis and treatment of certain diseases of the nasopharyngeal space." Dr. Jacobi is of the opinion that the improved knowledge of the anatomy of the nasopharyngeal cavity will probably clear up the etiology of many a case which was not diagnosticated correctly, and both pharyngeal bursa and tonsil will come up for their share in both etiology and treatment.

THE COCCI OF PNEUMONIA IN THE NOSE.

Dr. Arthur Thost [5] publishes the results of his observations, made with a view to determine whether the cocci which Dr. Klaumann found in the nasal secretion of a case of ozæna, corresponded with the pneumococci described by Friedländer. Dr. Thost obtained his material from the clinics of Professors Schrötter and Störk, in Vienna, and conducted his observations in the laboratory of Prof. A. von Frisch.

Out of seventeen cases of ozæna examined, cocci, with distinct envelopes, were found in twelve. After Dr. Thost had perfected his staining methods, he was able to demonstrate the presence of characteristic cocci in the secretion from cases of simple coryza, and in that of different forms of chronic rhinitis.

He obtained pure cultures of these cocci, and decided that they were identical with Friedländer's pneumococci. In order to test this point, he injected into the right lung of five mice, one drop of liquid from the pure culture. Three mice were inoculated with cocci from the nasal secretion of patients with ozæna, and two with pneumococci. In the blood taken from the tail of one of the mice inoculated with pneumococci, such an enormous quantity of cocci were seen, that they appeared to be as numerous as the blood-corpuscles. They were also found in the blood of the mice inoculated with the nasal cocci, but were not so numerous. All of the animals died in from one to two days, with pulmonary symptoms. The autopsies showed double pleuro-pneumonia, with serous exudation mixed with blood, and congestion of the spleen and kidneys. Microscopic examination of the pleuritic exudation revealed cocci, with distinct capsules; they were also found in the blood, and in the sections of the lungs, spleen, and kidneys. The appearances resembled, even to the smallest detail, those described by Friedländer.

Dr. Thost gives also the results of his experiments on rabbits and guinea-pigs, and his staining methods are described in full. He concludes by saying that more extended observations must determine what relation there is between croupous pneumonia in man, and these pneumococci in the nose. If a cold in the head depends upon the presence of these cocci, it will be an interesting question whether certain affections of the lungs can originate from micro-organisms in the nose.

CIRCULATION IN THE NASAL MUCOUS MEMBRANE.[6]

The anatomists, Hyrtl and Henle, admit that in the normal state, the cavernous or spongy tissue of the nasal passages is swollen. According to Bresgen, we ought only to recognize the normal condition when the mucous coat is closely applied to the osseous framework. He combats the opinion of Hack, that the mucous membrane itself remains unaffected when any considerable swelling of the cavernous tissue is present. Fraenkel and Zuckerkandl teach that a cavernous tissue does not exist apart from the mucous coat itself; and from the histological examinations of Fraenkel, it appears that in all cases of swelling of the cavernous tissues, there is some hyperplasia of the mucous membrane. But Bresgen argues that, normally, there is no cavernous tissue in the nose, but only a venous plexus, which, by the irritation caused through the passage of air, is transformed into a cavernous tissue. The same spongy tissue that is frequently found around the lachrymal canal is held to be abnormal, and due to the propagation of a chronic rhinitis, which leads to swelling, with hyperplasia of the venous plexus.

HICCOUGH CURED BY INDUCED SNEEZING.

Dr. G. A. Gibson, in a paper entitled "A Classical Remedy," [7] calls attention to the Hippocratic aphorism, "Sneezing occurring after hiccough removes the hiccough," and states that tickling the nostrils in cases of obstinate hiccough has been tested by him with very successful results. Hiccough, he says, as well as sneezing, is one of the specially modified respiratory movements, and it is quite in accordance with what we know of the transferrence of nervous action, that the spasmodic contractions of the diaphragm should cease on the induction of the explosive expirations which constitute the facts of sneezing. But it is not necessary, according to Dr. Gibson, that the stimulus applied to the nose be followed by sneezing; the application of a gentle irritant to the nasal mucous membrane may be quite enough to put a stop to the hiccough, by diverting the nervous energy into other channels, although it may not be of sufficient power to induce sneezing.

Clinical Memoranda.

"RHEUMATISMAL NODULES."

BY F. E. PORTER, M.D., OF AUBURNDALE.

A PARAGRAPH in the *Medical Record* of June 5th, calls attention to "Rheumatismal Nodules" as exhibited in a hospital patient. The case is so similar to one that has just passed from my attention, being the first of the kind ever seen by me, I venture to call attention to it through the JOURNAL.

On the evening of May 29th, Mrs. J. came to my office to say she thought her maid had the "hives." The back of her hand was swelled and bunches appeared both there and down her right leg. She was also somewhat stiff, and complained of her right knee. On the 31st, the trouble not getting better, but the patient growing stiffer in several joints, I was asked to see her. I found she had had the prodroma of acute disease. Her pulse and temperature were above normal, the hand and wrist were puffed, while irregular nodules, hard and somewhat tender, presented themselves. The metacarpo-phalangeal joint of the middle finger was the centre of tenderness. The knee was also swollen, while down the leg were nodules

[5] Deut. Med. Wochenschr., March 11, 1886.
[6] Lancet, November, 14, 1885.
[7] Edinburgh Medical Journal, April, 1886.

from the size of a split-pea to that of a hazel-nut. The left elbow had also begun to be tender. I at once pronounced it rheumatism, yet had misgivings about the nodular phase of the case. The salicylates were prescribed, and in two days the patient was about the house, with only an occasional pain in a joint. The nodules had disappeared and the puffiness of joints also. The salicylates were continued in diminishing doses three days longer.

In the limited round of complications of rheumatism at hand, I find nothing corresponding to this condition. Abscesses, purpura hæmorrhages, urticaria and scrofulous swelling would, perhaps, be thought of. As abscesses are a later development in rheumatism, it might be questioned whether the above conditions untreated would result in abscesses, but they certainly did not present the appearance of commencing abscesses. Purpura does not present the swelling of upper joints, though swelling of the lower extremities takes place; but such swellings are not attended with fever, are not inflammatory; and neither abscess nor purpura is attended by the sweating present in rheumatism. The wheals of urticaria have a white centre with red areola, are accompanied by intense itching and burning; they are raised, while these nodules, though raised, invaded the subcutaneous cellular tissue. In scrofula other characteristic signs would be found, and it is also chronic in its course.

The few lines in the *Medical Record* give a picture of the nodules. . . . "Nodosities in the subcutaneous cellular tissue and certain muscles which closely resembled gummy tumors. They had grown very rapidly until they were as large as hazel-nuts, at which size they remained stationary. . . . the tumors were to be distinguished from those of syphilitic origin by their rapid growth, the pain attending their evolution, and the ecchymotic tinge of the skin covering them." These particulars make the two cases alike, it seems to me.

Reports of Societies.

ASSOCIATION OF AMERICAN PHYSICIANS.[1]

THURSDAY.— AFTERNOON SESSION.

The first business of the afternoon session was the discussion of the question,

DOES THE PRESENT STATE OF KNOWLEDGE JUSTIFY A CLINICAL AND PATHOLOGICAL CORRELATION OF RHEUMATISM, GOUT, DIABETES, AND CHRONIC BRIGHT'S DISEASE?

Referee, Dr. James Tyson, of Philadelphia. Co-referee, Dr. William H. Draper, of New York.

DR. TYSON, the referee, began by defining the diseases included in the subject. The usual definitions of rheumatism and gout as general diseases with local expressions were given. Diabetes was subdivided into two varieties, the milder and the more severe form. The former consists essentially in a defect in that particular metabolic office of the liver, by which glucose is converted into glycogen. It is due to over-stimulation of the liver cells by the excess of absorbed glucose arising from the habitual over-use of saccharine and starchy foods. The more severe form of diabetes may be termed neurogenous, and is caused by some direct or reflex influence on the vaso-motor centre, whence arises a hyperæmia and accelerated circulation through the liver, as the result of which the glucose, absorbed during intestinal digestion, is carried too rapidly through the liver to permit its conversion into glycogen. To this is added, in advanced stages, glycogen resulting from the splitting up of the products of digestion of nitrogenous foods.

Taking up the discussion, first as to rheumatism and gout, the referee called attention first to the difference in the morbid anatomy of the two diseases, in the absence of anything specific or peculiar in the changes in the joints in rheumatism, while in gout there is the peculiar deposit of sodium urate in the joints or their vicinity. The composition of the blood is definitely altered in gout by the almost constant presence of an excess of uric acid in combination with sodium, whereas no change of corresponding importance is found in the blood of rheumatism. Heredity plays a much more important rôle in gout than in rheumatism, reaching in the former, according to various observers fifty to one hundred per cent., while in rheumatism the maximum claimed is thirty-four per cent. The early age at which rheumatism presents itself as compared with gout implies a difference in the etiology, as does also the absence of renal and the presence of cardiac complications. Alcoholic liquors and over-indulgence of food have no influence in the causation of articular rheumatism. In gout they are all-powerful.

The exciting cause of rheumatism is always cold, dampness, or both. The cause of the explosion or the acute attack of gout, is the cause of the disease itself, and is due either to the over-accumulation of uric acid in the blood, whether as the result of increased formation or defective elimination, or to diminished power of resistance of the organism through some accidental cause, atmospheric or physical.

Moreover, except in the case of salicylic acid which is admitted by all to be useful in both affections, Dr. Tyson thought that the treatment required by the two diseases was different. The treatment of gout is eliminative, that of rheumatism is restorative. It is true salycilic acid is efficient in both diseases, but this is not sufficient proof that they are the result of the same cause, so long as that cause is so easily demonstrated in one and not in the other. Nor is the case strengthened by the theoretical reasoning which so well explains the action of salicylic acid that it prevents the formation of uric acid in the blood by seizing upon the glycocine out of which uric acid is formed.

The relation of gout to that form of chronic renal disease known as chronic interstitial nephritis is a true correlation, since there is every reason to believe that the cause of gout is one of the causes of this form of chronic renal disease, so common in gout, and the evidence of renal disease is often found long before the gout manifests itself.

To estimate the relation between gout and diabetes it is necessary to remember that there are two forms referred to. With neither of them is there any pathological relation. Between gout and the first or mild form of diabetes there is a clinical correlation, although many of the facts on which it has been founded, the referee believed to be erroneous. Thus although uric acid sediments are quite common in diabetes, yet careful quantitative analysis showed no increase in the amount of uric acid excreted. The uric acid sedi-

[1] Continued from page 598.

ments must therefore be the result of the excessive acidity so characteristic of diabetic urines, due to the fermentative processes.

Again, it is said the lithæmic urines often contain sugar. This he was confident was much rarer than is commonly supposed, because of the fact that uric acid reduces the salts of copper and this reaction is mistaken for that of sugar. He thought that the inability of gouty persons to digest saccharine and starchy elements of food should not be regarded as a proof of clinical correlation, because it simply indicates a feeble converting power of the intestinal digestive fluids over the carbo-hydrates. In diabetes there is no defect of this kind. The carbo-hydrates are converted into glucose with facility. The trouble is with the liver, which is not able to reconvert the glucose into glycogen.

Between gout and the more severe form of diabetes, which is the result of disease at a point distant from the liver, there is no correlation either clinical or pathological.

Between diabetes and Bright's disease there is a relation of this kind. The effect of the circulation through the kidneys, surcharged with sugar alone, or with sugar, acetone and diacetic acid, is to irritate the renal cells and produce a degree of chronic parenchymatous nephritis instead of the interstitial nephritis which is so closely correlative with gout. From recent observations there is reason to believe that these changes take place in the kidney much earlier than used to be supposed, and that albuminuria appears correspondingly early, either coincidently or in alternation with glycosuria. The difference between the relation of gout to Bright's disease and of the more severe or neurogenous diabetes, is that in the former that which causes the gout, causes the Bright's disease, so that there is a true correlation, whereas in neurogenous diabetes, it is a result of the diabetes which causes the renal complications.

As to diabetes and rheumatism, the idea that these two diseases are closely correlated, has apparently received substantial support from the results of treatment of the two diseases by salicylic acid. Occasional reports as to the efficiency of salicylic acid in diabetes have acquired additional impulse from views which have recently been promulgated by Latham, who concludes on clinical grounds that there are two forms of diabetes. One due to neurotic disturbances of the function of the liver and the other to neurotic disturbances of the functions of muscle. As the result of the latter, glucose is formed in the muscles and passes thence into the circulation. This latter is so closely related to rheumatism that one degree of oxidation developes the materies morbi of rheumatism, and another developes glucose. Having shown also by the same reasoning that the administration of salicylic acid arrests the formation of uric acid, lactic acid and glucose, he thus explains the usefulness of salicylic acid in some forms of diabetes, and says that in doses of from ten to twenty grains three times a day, he has seen it produce marked improvement. More recently, Holden reports the successful treatment of six cases of diabetes, with salicylic acid.

The referee, whose experience with salicylic acid in the treatment of diabetes had not heretofore furnished satisfactory results, had not yet had the opportunity of applying this more recent principle, that it is in the cases with rheumatic pains that it is especially serviceable. He held that until more cases were collected in which this principle of treatment was applied, the question was not ripe for decision. In a single case which had come under his observation, in which it was claimed that salicylic acid had been very useful, the sugar had been found increased rather than diminished.

DR. WILLIAM H. DRAPER, the co-referee, said it is fair to presume that this question would not have been propounded if clinical experience did not suggest it. It certainly is not yet justified by the present state of knowledge in pathology. Although the question is premature from a pathological point of view, it can hardly be regarded as without interest and possibly importance from a clinical standpoint. It is from this latter aspect that my remarks shall be made.

By gout is meant, I take it for granted, not simply the arthritic malady, but a diathesis which manifests itself through more or less well-defined derangements of nutrition, which give rise to a variety of secondary cerebro-spinal irritations, and provoke definite structural changes in the bloodvessels, in the connective tissue of the parenchymatous organs, and in the nervous system. By diabetes we are to understand, I suppose, the more common and lesser form of that disease. Rheumatism is so vague in its ordinary application that it is not easy to comprehend exactly what is meant in this question. It is presumed that it covers acute articular rheumatism and the sub-acute forms in which the differential diagnosis from sub-acute gout is so difficult. The form of Bright's disease is probably the form of chronic diffuse nephritis, which is characterized by extreme sclerotic changes in the connective tissues of the kidneys, and in the arteries, and by cardiac hypertrophy.

I think that the experience of most clinical observers will justify the statement that gout, rheumatism, diabetes, and chronic Bright's disease are frequently associated, sometimes in the same individual history, more frequently in the histories of families. The association of gout and even chronic rheumatism with chronic Bright's disease is very common in the individual, while the association of gout with diabetes, or of diabetes with granular kidney, is not common. Chronic rheumatism may exist without even being complicated with gout, or diabetes, or chronic nephritis, but in families where the association of morbid phenomena can be traced, I think that it will be acknowledged that these diseases are frequently found in more or less marked alliance. Granting this association, are there any facts to show their co-relation? Are they reciprocal, interchangeable affections, transmutations of the same morbid process, and therefore recognizing a common determining cause, as yet unknown?

The first fact that suggests the idea that they are cognate forms is that of heredity. First, as to gout and diabetes, glycosuria often recognizes a gouty ancestry, the term glycosuria being used to express the lighter form of the disease. In many cases the grave form of diabetes is not traceable to a gouty origin. The speaker had seen many cases leading him to believe that, excluding the cases of diabetes of nervous origin, careful investigation of the family history would reveal the presence of gout in the majority of cases. Second, concerning gout and rheumatism, the fact of heredity, as establishing a connecting link, is not so evident, but it has been pointed out that articular rheumatism frequently occurs in the children of gouty parents. The influence of heredity in deter-

mining the association of the sub-acute form of rheumatism and gout cannot be positively decided. Third, as to the frequent manifestation of heredity in the history of gout and interstitial nephritis, I think that there can be no question. This form of Bright's disease not only occurs as a complication of inherited articular gout, but is often observed in the members of gouty families who have themselves never exhibited any articular lesions. This is especially seen in the female line.

I wish next to call attention to the association with these diseases of certain common derangements of nutrition. While it cannot be claimed that organic chemistry has as yet done more than formulate the general principles that gout and diabetes are associated with the signs of incomplete metamorphosis of the food elements, it is daily making progress in solving the complex processes by which each atom of carbonaceous and nitrogenous food is finally resolved into carbonic acid and urea. In these two diseases there is a diminished capacity for converting the carbohydrates. The occurrence of sugar in the urine of gouty persons, and of lithic acid deposits in the urine of diabetics, is not infrequent.

Gout, diabetes, and rheumatism, in their treatment by medicines, exhibit reciprocal relations. In these various affections, the alkaline treatment is used with benefit. It is admitted that the value of the alkaline treatment in acute rheumatism is not sufficiently well established to justify the proposition that the disease is on that ground a correlation of gout. The value of salicyl compounds in the treatment of gout, diabetes, and rheumatism suggests the idea that these diseases have something in common, either casual or concomitant, which the preparations of salicin antagonize.

The clinical observations which support the idea of a correlation of gout, diabetes, rheumatism, and certain definite structural changes in the kidneys and blood-vessels, namely the frequency of hereditary transmission in the same family, and their occasional co existence in the same individual, the common idiosyncrasy of a diminished capacity for the complete conversion of the carbo-hydrates, and finally, the common reactions which they exhibit to the same remedies, are, of course, open to criticism, but they nevertheless excite a reasonable suspicion that these diseases have at least certain common features which in all probability proceed from similar derangements of physiological functions. This much, it seems to me, may be acknowledged even in the absence of any adequate pathological evidence that these diseases are attended with any common structural lesions or specific functional disturbances.

There are many unsolved problems in the pathology of gout, diabetes and rheumatism, and the working hypothesis of the clinical observers in this field are being constantly unsettled by the revelation of the physiological laboratory. It would seem, therefore, that the only conclusion we are at present justified in making as to the correlation of the diseases in question is this: clinically, they are often associated by hereditary transmission, by co-existence and alternation in the same individual, by presenting similar idiosyncracies in regard to the power of converting the carbohydrates, and by being more or less successfully controlled by the same remedies. Pathologically, they must still be regarded in the absence of any demonstrable common determining cause, either functional or structural, as more or less distinct and specific diseases.

DISCUSSION.

DR. J. T. DANA, Portland, Me. It seems to me that this discussion might properly have been extended a little so as to include rheumatoid arthritis. In this affection I think that the differentiation of it from the other affections has been well made out. I would ask if this disease does not require comparison with the others considered?

DR. E. G. JANEWAY, New York. In taking up the question of history we have to be careful in reading English writers. The English people all through are gouty. Any rheumatic tendency described in such individuals will not hold in other countries. We do not, I think, find the same correlation in America. A point which has struck me strongly is the fact that while the Hebrew race is very subject to diabetes, members of this race do not have gout and rheumatism in the same proportion.

With reference to the presence of albumen in the urine of diabetes, I have found that in many cases this was to be explained by the irritation of the urinary passages by the saccharine urine.

DR. A. L. LOOMIS, New York. From a pathological standpoint we cannot at present regard these diseases as directly, at least, correlated, but from a clinical standpoint there are many things which make it difficult for us to divest ourselves of the idea that there is a correlation in rheumatism, gout, diabetes and chronic Bright's disease. These clinical phenomena are often so striking that one comes almost to regard these diseases as different manifestations of the same causes.

I should like to relate briefly the histories of some cases illustrating this point. The first is the case of a man of sixty-three, who at the age of forty-two, had his first attack of gout. These attacks recurred until the age of sixty. The urine was frequently examined during this period and with negative results, presenting only a high specific gravity and nearly always an abundance of urates. In his sixtieth year, after a prolonged attack of gout, sugar appeared in the urine. From that time to the present he has not had an attack of gout. Sugar was presented until six months ago when it disappeared, and now I find albumen. This change could not be accounted for by changes in habits or in diet. Two analogous cases were also reported. These cases are not unusual. It seems to me that they compel us to take the position that while in their clinical phenomena they differ very markedly, still in their origin and development they seem to have many things in common; in other words, their correlation seems to be complete.

DR. H. C. WOOD, Philadelphia. My experience has led me to conclude that gout and rheumatism were the same thing. I am utterly unable to make the diagnosis between them. In a family of which I am cognizant, the great grandfather was an Englishman and died of gout. The grand-parents seemed to have escaped, but the uncles and aunts almost without exception have died of gout. One brother has suffered with attacks of sub-acute rheumatism since the age of ten. Another brother has had six attacks of the inflammatory rheumatism in as many years. Another brother went to the age of thirty years without any marked manifestation, when he had a severe attack of gout. Another brother has become almost a perma-

nent cripple from inflammation of the muscles. If all this rheumatism and gout does not date back to one origin, it is to me extraordinary.

DR. WILLIAM PEPPER, Philadelphia. The clinical evidence of the correlation of these diseases seems to me to be so great that we cannot safely disregard it. In considering such common diseases, we must of course exclude mere coincidence. Dr. Draper has done well in calling attention to gout as a consitutional affection. If we confined ourselves to the mere arthritic phenomena we should exclude the great proportion of cases of gout as we meet with it in this country, which are perhaps as well included under the head of lithæmia as anything else. In regard to Dr. Janeway's remarks in regard to the frequency of diabetes in the Jewish race, I can agree, but I have also found such persons very subject to lithæmia. In all these cases the importance which a diminution of vital resistance of any particular part plays in the development of the local manifestation, must be remembered.

Dr. Dana has referred to rheumatoid arthritis. This appears to be the form in which the nervous element is most marked. All have seen cases in which rheumatoid arthritis has been preceded by influences acting directly upon the nervous system. When we consider the immense amount of nerve force required in coördinating the digestive processes of stomach, liver and kidney and in superintending the metabolism in the tissues, it seems clear that a depressed condition of the nervous system must play a large part in the production of these affections. In studying cases of these diseases we are usually able to obtain a history of some cause of depression of the nervous system, and this affords a powerful argument in favor of the correlation between these diseases.

In regard to treatment I could give evidence in favor of the salicylic acid treatment in certain groups of diabetics. These have been cases of the milder type associated with rheumatoid and arthritic phenomena. In one case the diabetes has been apparently cured, the patient having returned to the use of carbohydrates. In this case albumen still persists.

The explanation of Dr. Janeway as to the cause of the albuminuria, I think, does not hold good in many of these cases. The disappearance of the sugar is not always accompanied by a corresponding decrease in the quantity of albumen.

DR. A. JACOBI, New York. I believe that the papers read have said all that is, known on this subject. There is one form of rheumatism not so well known as the forms described, that is, the rheumatismus nodosus, sometimes seen in young subjects. This nodosus form of rheumatism shows itself by the appearance of small lumps varying from half a dozen to several dozen, appearing not infrequently about the tendons of the fingers. I have seen them about the fascia, particularly of the head. Examination of these lumps show them to be composed of hypertrophied connective tissue.

In regard to the connection between diabetes and gout there are several forms of diabetes. The form particularly connected with gout is that due to disturbances of the nutritive processes — particularly that of the liver. This is the form in which the salicylates do good. Its action has seemed to me to be due to the influence of this drug over the liver in increasing the quantity of bile and in liquefying it. It is therefore a powerful agent in diminishing the tendency to the formation of gall stones. The forms of glucosuria which come and go are usually benefited by salicylate of sodium. This form of diabetes is generally found in anæmic persons, often very fat, and not infrequently among women of the Jewish race.

In reference to Bright's disease. This is quite common at the age of forty or fifty years when atheroma of the small arteries appear. At that time, gout is also common, and the co-existence of the two does not necessarily indicate a common causation.

DR. WILLIAM H. DRAPER, New York. In the cases of rheumatoid arthritis where a reliable history could be obtained, I have as a rule found evidences of a gouty origin. I refer to gout in its larger significance. In regard to gout, I may say that I am strongly inclined to believe that the presence of uric acid is only an epi-phenomenon, and that its presence in the joints is not absolutely essential to the occurrence of other true gouty lesions.

In the diabetes of Jews, I have seen the same association of lithæmic conditions as in other races.

I agree with Dr. Wood in regard to the difficulties of diagnosis. The practitioner can not always satisfy himself whether he is dealing with gout or rheumatism.

As I said in my address, the correlation of these diseases is to be made only from a clinical stand-point and none can fail to recognize the frequent association of these diseases. Whether or not there is at the basis of all of them a similar pathological process is a question which has yet to be determined by pathological chemistry.

(To be continued.)

THE NEW YORK ACADEMY OF MEDICINE.

STATED meeting, May 20, 1886.

DR. EDWARD G. JANEWAY read a memorial of

THE LATE GASPAR GRISWOLD, M.D.,

and afterwards a paper on

THE DIAGNOSIS OF DISEASES OF THE HEART.

His object, he said, was to call attention to certain special points involved in more or less obscurity, and to some in regard to which there are differences of opinion. He first spoke of alterations in the position of the heart, particularly the lowering of the organ in consequence of abnormalities in the thoracic aorta, the possibility of which was to be borne in mind by all those who had to deal with cardiac affections. Again, the heart might be pushed upward and forward in cases of spinal curvature, and of enlargement of the spleen, and when this was the case, it was necessary to be on one's guard lest the condition should be mistaken for aneurism of the aorta. In men, the nipple was frequently referred to in the books as a guide for the position of the heart, but on account of the varying location of the nipple in different individuals, this was unreliable, and the centre of the sternum was a much more desirable point of reference.

The cardiac impulse was a matter of considerable interest, and it was not infrequently the case that in those who had been resting for some time in a recumbent position, there was no visible impulse, while sometimes none could be detected even on palpation. Yet such a condition of affairs might be perfectly consistent with a normal heart, and indicate nothing more than a slight lack of cardiac force.

In speaking of auscultation of the heart, Dr. Janeway remarked that one was apt to consider the heart more or less in a dangerous condition if a murmur was present, but that it was normal if no murmur could be discovered. But it was always highly important to pay attention to the heart-sounds. In anæmia all would admit that a murmur might appear at the base, or even at the apex. At times a soft murmur could be heard at the second interspace, with normal closure of the valves. Sometimes this was due to anæmia, but not always. If anæmia were not present the cause was to be looked for in the reduction of the calibre of the pulmonary artery from some pressure upon the vessel. Some murmurs varied with the respiration, and the possible occurrence of a cardiac respiratory murmur was not to be overlooked. In certain individuals, short diaphragmatic contractions were produced when they were told to hold the breath.

In order to determine the true character of a murmur it was necessary that all the circumstances attending it should be taken into consideration, and in many instances a number of examinations, extending over a considerable period of time, were required for this purpose. Murmurs were sometimes liable to be mistaken for each other, as, for instance, a præsystolic mitral for an aortic regurgitant. In mitral stenosis there were also great divergencies as regards the character of the murmur, and it was possible for this condition to exist without any murmur at all, or with a murmur which was intermittingly present. In general, it might be said that the loudness or softness of a cardiac murmur was no index of the gravity or insignificance of the diseased condition present.

In speaking of the subject of embolism, he said that a thrombosis might occupy such a position as to be out of the way of the blood-current, and thus give rise to no murmur whatever. In illustration he related the case of a young woman twenty-one years of age in the syphilitic wards of Charity Hospital, Blackwell's Island, who, while engaged in combing her hair one day, became suddenly affected with hemiplegia, although she did not lose consciousness. A careful examination revealed nothing in the slightest degree abnormal about the heart.

Pulsation of the liver might cause difficulty in making a diagnosis between aneurism of the aorta and disease of the heart. The liver might rise and fall simply as the result of pressure from an enlarged heart, or it might have a true expansile pulsation itself. The latter, when present, could be detected by placing the fingers of one hand under the lower border of the liver, and those of the other hand over the epigastrium. In this way it could be readily appreciated that there was a true enlargement of the organ, with a resulting lowering of its lower border. In long-continued mitral stenosis, with hypertrophy and dilatation of the right heart, there might be pulsation behind the liver.

The diagnosis of ulcerative endocarditis was often very difficult, but in other cases it was quite easy. It was due to septic influences introduced from without, and the endocarditis was frequently mistaken for a manifestation of some one of the ordinary infectious diseases, such as typhus, typhoid, small-pox, etc. One case of ulcerative endocarditis that he had met with resembled acute yellow atrophy of the liver, and the cause of the hepatic complication was an embolus that packed the hepatic artery.

The absolute diagnosis of certain conditions of the heart was generally impossible, as, for instance, the existence in it of new growths, such as cancer, tubercle, etc. If, however, there are secondary deposits of such new growths in other portions of the body, and the heart was found enlarged, without the presence of any other condition to account for the enlargement, such a diagnosis would be rendered probable.

In conclusion, he said that syphilis was a frequent cause of valvular disease of the heart, and a careful examination of the subject would show that it is responsible for many of the cases which are generally supposed to be of idiopathic origin.

DR. E. DARWIN HUDSON, JR., said that the various points touched upon by Dr. Janeway in his paper were of special value as coming from one who had had opportunities enjoyed by scarcely any one else in this or any other country for following out cases observed during life to the autopsy-room. He had nothing to criticise in the remarks which had been made, and would simply refer to a few points that had occurred to him in connection with them.

The study of the location of the apex was a matter of very considerable importance. This could ordinarily be determined by palpation, but if this was not sufficient, auscultation could be resorted to for the purpose. The location of the apex was of no little diagnostic value. For instance, if the apex was in its normal position, it was practically impossible that there should be either hypertrophy or atrophy of the heart, and hence any alteration in the size of the organ might be excluded. If the heart was shifted out of its normal position, murmurs at the base and apex might have an entirely different significance from what they would have under ordinary circumstances.

In the study of mitral murmurs it was highly important to consider the composite nature of the first sound of the heart, as so well described by Walshe. In a large number of cases he had found that murmurs which had all the characteristics of mitral regurgitation or mitral stenosis were not permanent. Although he was perfectly satisfied as to the occasional existence of the mitral præsystolic murmur, he did not hesitate to say that he was somewhat sceptical as to its frequency. There were a great many murmurs which simulate the true mitral systolic murmur, and time, rest, and the use of cardiac sedatives were not infrequently required to enable one to determine positively the condition present in any given case. At the present time he had under observation a boy who had a cardiac murmur which was most distinctly heard at the apex, and could also be heard behind; but was not transmitted around the walls of the chest. Hence, this sign, which was often spoken of in the books, was fallacious.

DR. HEINEMANN said that it was an important dictum for those engaged in the study of diseases of the heart to remember, that it is not the apex-beat, alone, not the size of the heart alone, and not the murmur that might be present, alone, but all these combined, together with the examination of the pulsations in the neck and the clinical history of the case, which must be taken into consideration in making a diagnosis. Before arriving at a definite conclusion in obscure cases, we could help ourselves by going over the entire case, with the clinical history.

As to the matter of thrill, he had studied this sign carefully for several years in the patients met with at Dr. Alonzo Clark's clinic, and he had found that

there might be a very loud and intense murmur, and yet no thrill. There was, therefore, no relation between the presence of the thrill and the intensity of the murmur. As regards time, the præsystolic thrill was not always to be relied upon. It was only one element in the diagnosis, and one that was uncertain.

If three or more murmurs were present in a case, it was impossible to say upon a single examination what the exact condition was at the aortic and mitral orifices. This could only be determined by repeated examinations.

DR. A. L. LOOMIS remarked that Dr. Janeway had called attention to some very difficult questions. In the first place, he had spoken of displacements of the normal heart as a result of changes in the aorta. At one time he had had the opportunity of examining the hearts of a large number of healthy persons, and his experience thus acquired, had shown him that the variations as regards the position of the apex-beat were much greater than the books would lead us to suppose. Downward displacement of the heart was the one which struck him as the most common, when no cardiac disease was present. If the apex was below the normal limit, while the heart was normal in other respects, it would not have any especial pathological significance.

As regards the force of the apex-beat, there could be no doubt that, as Dr. Janeway had said, a decided settling back of the organ was liable to occur as a result of the horizontal position. In many healthy individuals it was impossible to make anything out by means of palpation with the patient in the ordinary position. In order to facilitate this he should be requested to lean forward; but even this sometimes failed in eliciting the desired information.

Long confinement in bed, he thought, interfered with the nutrition of the cardiac walls. In heart troubles it was not the murmur and the changes of position which were of so much consequence as the integrity of the heart, and of the rythm.

The more he studied the heart, the more convinced did he become that cardiac murmurs were not of as much significance as was apt to be supposed. But when, with the murmur, there were evidences of changes in the walls of the heart, as well as changes in the rythm, these gave us more information than the fact and characteristics of the murmur. Thrill, he said, was generally present in præsystolic and mitral obstructive murmurs; but this was not the only thrill. In dilatation of the right heart there might be thrill, as well as a murmur.

The diagnosis between præsystolic and aortic regurgital murmurs was an old question. Many years ago he had seen in an autopsy a case in which the latter murmur was believed to be the one present during life; and it was found that there was stenosis of the mitral orifice. Since then, he said, there had never been to him any question about the præsystolic murmur and the conditions which gave rise to it. It was not of serious import, unless the result of endocarditis. The two murmurs were in fact, however, so different, that there need be little difficulty about the diagnosis at the present day.

In order to have hepatic expansive pulsation it was necessary, in his experience, to have very free tricuspid regurgitation.

Dr. Loomis then went on to say that the medical mind ought to be freed from the trammels of these murmurs. It was the dilatation of cavities that caused the trouble; but if there was perfect compensation, there would be no difficulty. Sometimes the dilatation of the heart cavities was quite sudden, as in one case referred to by Dr. Janeway, in which this sudden dilatation was the direct result of unusual physical exercise. In conclusion, he said that he had not understood whether Dr. Janeway considered ulcerative endocarditis a primary or a secondary affection; and there was considerable diversity of opinion as regards this point.

DR. JANEWAY replied that he had seen two cases recently in which there was cystitis, with septic organisms, and the ulcerative endocarditis present was clearly secondary. He had also seen many other similar instances, and one was a case of pyæmic pneumonia, in which the presence of the pneumo-coccus of Friedländer was satisfactorily demonstrated. But there were undoubtedly other cases, in which the ulcerative endocarditis was a primary process. Here, nothing had preceded the endocarditis, and yet numerous vegetations were found, associated with abundant micro-organisms. The most careful investigation failed to show that the patients had been exposed to typhus, or other form of infectious disease, and they were not followed by cases of such disease in other individuals. It was therefore highly probable that the ulcerative endocarditis was primary. Then, again, there was a third class of cases in which it was impossible to say whether the endocarditis was primary or secondary, and in illustration he mentioned the case of a boy suffering from osteo-myelitis, as well as endocarditis, which was of this character.

NEW YORK STATE MEDICAL ASSOCIATION, FIFTH DISTRICT BRANCH.

SPECIAL Meeting, June 15, 1886. Afternoon session held at the rooms of the Young Men's Christian Association, Rondout-on-the-Hudson, the President, J. G. PORTEOUS, of Poughkeepsie, in the Chair.

DR. W. B. EAGER, of Middletown, Orange County, read a paper entitled

INQUIRY AS TO THE CAUSE OF DEATH FOLLOWING CONFINEMENT ON THE SIXTH DAY, WITH SINGULAR NERVOUS SYMPTOMS.

The patient, then about forty-two years of age, was prematurely delivered in February, 1883, of her seventh child, at eight and a half months, greatly exhausted from rapid loss of blood caused by partial placenta prævia. The child, a well-developed male, was born dead. Her recovery, though somewhat protracted, was without special incident, except that at intervals of from one to three or four days, during the first three weeks of convalescence, she had distressing pains in the back of the head and neck, the attacks lasting from an hour or two to a whole day.

She subsequently became pregnant again, and on Sunday, February 1st, 1885, she was delivered of another male child, born dead, under similar circumstances, the operation of turning being resorted to in this instance, in order to avoid the extreme prostration from loss of blood, which occurred at her previous confinement. For a short time after labor she did remarkably well, but within thirty-six hours, she was seized with an intense, burning pain in the back of

the head and neck, which continued with varying degrees of severity during the remaining conscious moments of her life. The patient said it was "as though some one had thrust a red-hot iron through her neck, from her shoulders up into her head; and that she thought her head would split open, and that she should go into spasms." On Tuesday, she began to complain of paroxysms of pain at different points in the abdomen, referred principally to the region of the bladder, extending to either limb, and alternating without any regularity. These paroxysms came on, at first, at comparatively rare intervals, but afterwards became more frequent, as well as more severe. There was, however, no unusual tenderness upon pressure over the abdomen, and none whatever along the seat of pain in the limbs. During the night of Thursday, spots of a purplish hue and various sizes appeared at different points upon the lower extremities, and on Friday, became darker in color.

The lochial discharge continued normal in quantity and character until Friday, when it became slightly offensive and diminished in quantity. There was no tympanites, and the urine and passages were normal. From midnight on Friday, however, all evacuations passed involuntarily. She took nourishment freely until 11 A. M., Thursday, when vomiting occurred for the first time. From this time on she vomited at intervals, the matter ejected being of a greenish color, viscid, and occasionally showing streaks of blood. During Friday night and on Saturday, the vomited matter became of a deep brown color, though still containing the streaks of fresh blood. The temperature never went beyond 100° until Thursday evening, when it reached 102.25°, but on Friday it was found to be 99.5°. From Monday evening to Wednesday, at midnight, the pulse ranged between 90 and 120, after which time it became more rapid, until on Saturday it rose to 150 and 160. Until noon on Friday, she was generally perfectly conscious, but from then until her death, at 8.30 P. M., on Saturday, she took no notice of anything, though, when roused, would swallow liquids placed to her mouth, and until within a few hours of her death, give short, but intelligent answers to questions asked her.

At first, morphia was given freely, the patient taking about one grain every three hours for forty hours, but it did not control the pain, and afterwards, chloral and the bromides, in increasing doses, were substituted for it. At no time did she get complete relief, except when under the influence of inhalations of chloroform, by which sleep for periods varying from twenty minutes to an hour and a half was secured. During the time from Friday noon, a peculiar moan, resembling a suppressed scream, was the signal for its administration. At no time was there any convulsive action, nor paralysis of any kind, with the exception of that of the sphincters near the close of life. No autopsy was permitted. Dr. Eager said that he had never been able to satisfactorily determine the pathological condition giving rise to the phenomena presented in this case, and he hoped that some of the Fellows of the Association would be able to throw some light upon the matter.

Dr. William Govan, of Stony Point, Rockland County, suggested that some of the symptoms resembled those sometimes seen in septicæmia.

Dr. Eager replied that septicæmia had naturally occurred to him, but the case seemed to him to present peculiar characteristics which were not generally met with in this condition.

Dr. Robert Newman, of New York, gave a demonstration of

A NEW INSTRUMENT FOR GALVANO-CAUTERY IN DISEASES OF THE PROSTATE, BLADDER, AND URETHRA.

He said that at the annual meeting of the Branch Association in October last, he had stated that he had in process of construction an entirely new galvano-cautery instrument, especially adapted for the treatment of enlarged prostate, and he was now prepared to present it for examination.

The galvano-cautery sound is an instrument in the shape of a catheter, of smooth, polished metal, and having a short curve. At the end of its convexity is a fenestrum, in which is placed a platinum wire to be heated. This wire may be shaped differently; either straight, curved, or serpentine, in order to get more or less surface cautery. The other end of the instrument is straight, and forms the handle, and from this end emerge two wires, the heat conductors, each of which is connected by binding-screws to electrode wires, which go respectively to the positive and negative pole of the battery. The current-breaker is attached to one pole at the handle, and the instant this is touched, the heat must be of a high red color, just short of white heat. Any good galvano-cautery battery may be used with the instrument (Dr. Newman prefers the Dawson battery), but it is necessary to so regulate the battery that it yields the exact electrical potential to be used for the operation contemplated.

This instrument, Dr. Newman said, was not intended to produce coagulation or destruction of tissue. It could be applied to the cheek of a young lady without causing a scar, and he had already used it with great success as a surface cautery in a number of cases of enlarged tonsils in children. Its action is analogous to that of nitrate of silver, the intensity of which depends on the strength of the solution used. It can be controlled perfectly, and in experimenting with the instrument on mucous linings, it is found that a galvano-caustic application of the same power acts differently, according to the length of time of contact with the tissues.

As regards the enlarged prostate, the cure depends on the size of the hypertrophied organ. If it is very large, the process will be a slow one. There is not the slightest pain connected with the application of the galvano-cautery, so that it can be successfully used in cases of enlarged tonsils, even in very young children. Among the other conditions in which it can be applied with advantage, are inflamed granulations of the urethra, giving rise to a slight gleety discharge, and villous tumors at the neck of the bladder. In one case of the latter character treated by Dr. Newman, in which there was bloody urine, the hæmorrhage ceased entirely after one application. He stated, in conclusion, that he had purposely omitted all statistics or narration of cases on this occasion, as his purpose was simply to exhibit the instrument and describe its mode of action.

Dr. J. W. S. Gouley, of New York, referred to supramontanal hypertrophy of the prostate, and said that, as he understood the speaker, the object of this galvano-cautery was either to burn a hole through the organ, or, by using a mild current, to so modify its

nutrition, as to bring about a "cure" of the enlarged prostate.

DR. NEWMAN said that he ought not, perhaps, to have used the word cure in this connection, as, at the present time, he was not prepared to give the final results of any cases. The object, however, was certainly not to "burn a hole" through the enlarged prostate.

DR. GOULEY went on to say that he could not understand how this method of treatment was going to produce any beneficial results in supramontanal hypertrophy, as it was called, for he knew of nothing whatever which could modify this condition. It is not a disease which is the result of inflammatory action. The process of enlargement is a very slow one. It seldom begins before the age of fifty-seven or [illegible] eight, and sometimes not until sixty-five, while [illegible] the beginning of the trouble, patients sometimes do not commence to suffer from retention until five years have elapsed. Instead of a plasmatic deposit in the organ, there is a gradual enlargement of its racemose tissue, a general increase of all its glands, and there is no inflammatory action, except such as results from the death of normal elements of the part, which, as foreign bodies, then become a source of irritation. Hence, the only way to cure the trouble is to bring about atrophy of each little gland, and he did not see how this could possibly be accomplished by the method in question.

The methods of relief which have been used successfully are incision and ablation. Bottini, of Pavia, had used the galvano-cautery to perform prostatotomy, but he failed to see the advantage of using fire. Such tumors are not very vascular, and hence there is but little danger of hæmorrhage. The method now proposed by Dr. Newman is not electrolysis, but cauterization. If the heat is applied for any length of time, it must produce an eschar, and fire will burn, while if it only affects the epithelium superficially, there will be no results. There is no royal road to the relief of enlarged prostate, and, other things being equal, that patient will live the longest who carefully uses his catheter.

As to the use of the instrument in granular urethritis, Dr. Gouley said that he should be very doubtful of good results from the galvano-cautery, even when employed in its mildest form, on account of the great danger of producing a stricture. While he could not give his assent at present to the methods adopted by Dr. Newman, he was, however, open to conviction.

EVENING SESSION, HELD AT THE HOTEL KAATERSKILL, CATSKILL MOUNTAINS.

CONTINUATION OF THE DISCUSSION OF DR. NEWMAN'S GALVANO CAUTERY INSTRUMENT.

DR. NEWMAN said that he regretted very much that electrolysis and the action of the galvano-cautery should be so generally confounded with each other. Electrolysis was now an established fact. It had been adopted to a large extent all over the world, and a considerable number of autopsies had demonstrated the cure of urethral stricture by this method. The instrument which he now presented was entirely new, and the results accomplished by its employment would be shown later. He has worked for five years to perfect it, and he designed it only for surface cauterization. The galvano-cautery, if used as a knife, does destroy tissue; but it does not necessarily follow that it leaves a cicatrix. It makes an eschar which serves as a protection to the exposed surfaces; but this eschar will finally be thrown off, and the part will heal up entirely. The galvano-cautery fulfils the same purpose as the knife, with these advantages, that it does not produce hæmorrhage and it is not followed by an exposed wound which may be the cause of septicæmia. A perfectly satisfactory instrument for this purpose has not yet been arrived at.

DR. GOULEY inquired what was the intention of his new instrument as employed in enlarged prostate; to which Dr. Newman replied, to relieve pain and make room for the urine to pass, by shrivelling up the parts.

Dr. Gouley denied that pain results directly from enlargement of the prostate; and went on to say that if we wish to shrink up the organ, we must burn it, and that while we were making these applications (a large number of which were necessary) the patient might die. Ordinarily catheterism was sufficient; but when surgical relief was required it was called for very suddenly. In many cases the invaginated catheter of Mercier was of great service. By means of it a false route could be carried out to the bladder, without any hæmorrhage resulting. Or, a piece could be cut out of the prostate with the knife.

DR. NEWMAN said that the end sought was, first to remove the obstruction, so that the bladder could discharge all the urine, and then to reduce the prostate to its natural size. The theory is, that the cautery acts as an astringent, causing the mucous lining to shrivel up and the glandular tissue to contract. The stimulation gives new life and healthy action, and the operation must be continued until the desired permanent result is accomplished.

DR. H. VAN HOEVENBERG, of Kingston, read a

MEDICO-HISTORICAL SKETCH OF THE CITY OF KINGSTON.

The Provincial Convention, which was obliged to leave New York on account of the arrival of the British Army, assembled at the Court House in Kingston, March 6, 1776, and immediately proceeded to organize a form of government for the State. The first constitution of the State of New York was formally adopted here on April 20, and two days later it was read aloud to the people by Robert Berrian, the Secretary of the Convention, standing on a barrel in front of the Court House. On July 11, an election was held, and George Clinton, a native of Ulster County, was chosen Governor and Lieutenant-Governor. Among the persons present at the inauguration of Governor Clinton was Dr. Luke Kiersted, who at that time was a very prominent man in the community.

The result of the action of the Convention at Kingston and the proclamation of Clinton as Governor, was that the British sent a force of about 1,600 men, under General Vaughan, who landed at the mouth of the Roudout Creek, and marched up to Kingston, where they immediately proceeded to plunder and burn the houses and barns of the inhabitants. Most of the able-bodied men of the place were with the Continental Army in the Highlands, and although a detachment was sent North to protect Kingston, it did not arrive until the work of destruction was nearly completed, so that there was no force to offer resistance to the barbarous purpose of the British.

The Ulster County Medical Society was organized

in Kingston, July 1, 1806, with Dr. James Oliver as President, and Dr. Luke Kiersted, Vice-president. In looking over the records of the Society, it is found that even in those days the profession was troubled with quacks, and one of the first things that it did was to take action concerning a number of illegal practitioners. At the annual meeting in 1807, it was reported that there were forty-seven physicians practising in the County. At this meeting it was decided to choose some subject for debate at the succeeding one, and that the President should appoint some one to open the discussion. Accordingly, "Fever" was the subject selected, and Dr. Samuel H. Phillips was appointed for the purpose. It is found that as Dr. Phillips did not appear at the two subsequent meetings, he was fined five dollars, and the speaker thought that this might perhaps be a good precedent to follow at the present day under similar circumstances.

The profession in Ulster County has always stood well with the people at large. There are inscribed on its roll the names of some who have been men of marked ability, men who, with the opportunities which would have been afforded by residence in some of the large cities, would have risen to high positions in the ranks of the profession; but they were content to live the life of usefulness that opened before them, doing all the good they could to those around them, often at the cost of hardships and sacrifices, many times getting little, if any pay, and sometimes more curses than thanks as their reward.

THE PRESIDENT read the history of a

CASE OF INTUSSUSCEPTION, WITH SPECIMEN.

The patient was a school-boy thirteen years of age, who, in May, 1885, while suffering from an attack of diarrhœa, was suddenly seized with severe pain in the abdomen, accompanied with vomiting and complete cessation of the diarrhœa. Dr. Porteous made the diagnosis of intussusception, and injected two quarts of warm water through a metal tube, after which there was a small dejection, with some blood, the tumor in the abdomen disappeared, and the vomiting soon stopped. The boy remained weak through the summer, with a tendency to pain and soreness of the bowels.

On the 15th of May, 1886, after violent exertion, he was taken with severe vomiting and moderate pain in the abdomen. On the 16th, a cathartic was given, which increased the pain, but did not cause a movement. On the 17th, some small powders of morphia and bismuth partly controlled the vomiting and pain. On the 18th, the abdomen was swollen and tympanitic. No distinct tumor could be felt, but there was some tumefaction, with a feeling of hardness to the left of the umbilicus. Two large injections were given, and after the second there was a moderate passage. After a dose of oil and laudanum, there were several copious evacuations, accompanied with some blood. The vomiting ceased, but some pain and soreness remained. On the 29th of May, the patient had a convulsion, and after an enema of a pint of water, there was a passage accompanied by a piece of intestine measuring over seven inches in length (specimen presented). The boy is now doing well, though he still has a slight tenderness in the left side of the abdomen.

DR. C. R. WOOD, of New York, said that he hoped for several reasons that this case would be published. It was the fashion now to operate, and the medical attendant who did not operate, or send for a surgeon for that purpose, was often looked upon as actually criminal. At the Poughkeepsie meeting of the Fifth Branch, he had read a paper in which he reported a case similar to that of Dr. Porteous, in which recovery also took place, although there was no operation. Such cases ought all to be published. Many lives, he thought, might be saved if this course was more generally adopted. The operation was very apt to be fatal, and yet it was frequently resorted to, even before other measures had been tried.

DR. GOULEY said that he was fully in accord with Dr. Wood, if he understood that gentleman's views aright. "Belly cutting" has got to be such a mania among doctors, that one is tempted to suggest that some of its advocates ought properly to be shut up in a lunatic asylum. More lives are lost than saved by laparotomy. It is a perfectly legitimate operation, which is of great service in its proper place; but its scope and limitations are not so clearly understood as they ought to be. These limitations are, however, sufficiently well defined. It is an undoubted fact that many cases recover spontaneously. In a thesis which he wrote in 1853 he had collected a large number of these, and he remembered that in one instance six feet of intestine, and in another a still longer piece was discharged. Such cases as that presented by the President are not infrequent.

So long as the intestinal canal remains pervious, operative interference should be deferred; but the moment that complete obstruction of the bowel and commencing fæcal intoxication occur, laparotomy should be performed. The operation is much more fatal in the young than in the old, as peritonitis is far more apt to occur in them.

DR. JOHN SHRADY, of New York, related the case of a lady who was kicked in the abdomen. At first the symptoms were like those of peritonitis. Later stercoraceous vomiting set in, and she died at the end of three weeks. The autopsy showed the presence of peritonitis, with six inches of intussuscepted gut. He mentioned this case to show the length of time that the condition might last. In this patient he noticed particularly the patulous condition of the anus.

DR. GOULEY said that he wished to be clearly understood in the point which he made. He believed that laparotomy was often performed after symptoms of peritonitis had set in, and that under these circumstances the operation was worse than useless. If done at all, it should be performed just as soon as symptoms of intestinal obstruction have shown themselves. If the operation has any value whatever, it is at this time. Then, and then only, when intestinal obstruction first takes place, should it be resorted to. Afterwards it will be too late.

OPERATION FOR STONE IN THE BLADDER.

DR. GOULEY then exhibited a series of specimens of large stones taken from the human bladder which he said he wished to serve as a text for some remarks upon what he conceived to be a safe method of ridding the bladder of these dangerous foreign bodies. There were fourteen or fifteen of these specimens, most of which were removed by lithoclastic cystotomy, and Dr. Gouley gave a short history of each case; after which he went on to say that surgeons, like women, will have their fashions. Too often the sentiment entertained is "Perish the patient; but let me operate." The operation of lithotripsy and evacuation at a single

sitting, the old operation revived by Bigelow, at first sight seems a very simple and easy one; but the aspiration of calculous detritus, as well as the preliminary operation of crushing, is in reality attended by great danger. He had seen two or three hours occupied in these procedures, and the result was very severe cystitis. This would be the consequence whenever any sitting in lithotripsy was prolonged. The operation, therefore, should be short. Yet one case of Bigelow's had lasted four hours, and during all this time the administration of ether was kept up. Even though the kidneys are diseased, the ether must be gotten rid of through these organs, as well as by way of the lungs and skin; an acute nephritis from this cause, has occasioned many deaths. But if nephritis is not caused, permanent cystitis may result, which will eventually shorten the patient's life.

In many cases, therefore, cystotomy is far preferable to lithotripsy with aspiration. Two grand objects are secured by this procedure, as the patient is relieved, *first*, of prostatic obstruction, and, *second*, of the stone.

Still more recently an ancient operation devised by Franko in the middle of the sixteenth century has been revived, viz.: supra-pubic lithotomy. Within the last eighteen months the operation had undergone what was considered a very important modification, consisting of the elevation of the bladder by means of a rubber bag introduced into the rectum and distended with water. This however, is a delusive thing. The trouble is not want of space, as any good surgeon can remove the stone without difficulty. The real dangers are these: In the first place there is a liability of rupture of the delicate peritoneum during a violent fit of coughing or vomiting. The first case in which the operation was done by a certain advocate of this method in New York was in a child, and it was successful; but it was to be remembered that in children the bladder is in reality an abdominal organ. The second case was that of an adult; and before the surgeon had left the hospital, after removing the stone, it was reported to him that the intestines were protruding through the wound. The operator believed that he had cut the peritoneum; but Dr. Gouley thought that this was probably not the case. The peritoneum was stitched to the abdominal walls, and the patient recovered; but if the accident had occurred at night, the intestine would no doubt have become strangulated, and death from peritonitis have followed.

The second great danger was from extravasation of urine. Dr. Gouley predicted that for ten years the supra-pubic operation would be performed, and that when a sufficient number of deaths had resulted from it, it would be condemned and abandoned.

Surgeons would, therefore, have to come back to lithoclasty, on account of its greater safety. The mortality in general in lithoclastic cystotomy was one death in eight cases, and in Dr. Gouley's hands the proportion was still smaller, one in eleven.

He then referred to epicystotomy for sarcoma or papilloma of the bladder. He had had several cases of the latter, and had operated in two of them; but both the patients died. If he were now called upon to perform this operation upon an otherwise healthy subject, he said he should be inclined to combine the two procedures, the infra-pubic operation for securing drainage, and the supra-pubic for the purpose of seizing and removing the tumor. This is the only condition in which he would admit the propriety of the supra-pubic operation.

DR. SHRADY said that he should like to ask Dr. Gouley whether he thought the use of certain kinds of drinking-water had anything to do with the causation of urinary calculi. It has been stated that stone has been much less frequent in New York since the introduction of the Croton water system than it was before. Again, it is found that in certain parts of the country it is much more common than in others. The late Dr. Dudley, of Kentucky, performed an immense number of operations for stone.

DR. GOULEY said that his answer would be an affirmative one, although with a reservation. Potable waters containing such ingredients as lime-stone do not give rise of themselves to stone in the bladder. The impression formerly prevailed that certain potable waters would cause stone because the salts they contained would be deposited; but this was not the case. That lime-stone waters are prolific sources of stone there can be no question, but it is in an indirect manner that they produce this effect. They give rise to dyspepsia, and thus cause lithæmia and nephritic colic, and finally calculi are passed from the kidneys which are not evacuated from the bladder. These cause irritation of the mucous membrane of the bladder, and concentric layers of phosphates or urates are formed. The effect of these waters is, therefore, an indirect one, and they not infrequently give rise to engorged liver, gastric catarrh, and rheumatic and gouty pains. Dr. Dudley himself, he believed, took this view of their agency in the production of stone.

Recent Literature.

Dictionnaire Annual des Progrès des Sciences et Institutions Médicales, par M. P. Garnier.

This valuable annual publication has reached its twenty-first number, and as in previous years, gives evidence of industry and painstaking research on the part of its author. The introduction gives a summary of the progress of medical science as chronicled in the volume, and also Dr. Garnier's comments thereon.

In his opinion, the solution of the problem of the prophylaxis of hydrophobia by Pasteur should make forever memorable the year 1885. Antiseptics and antiseptic dressings, new remedies and other therapeutic results, the advances in pathology and in surgery, all these, and many other subjects, are duly considered.

— Professor Virchow recently completed the thirtieth year of his occupancy of the chair of Pathological Anatomy at Berlin.

— Dr. Maclagan, the medical officer of the Hexham Rural Sanitary District, England, while calling attention to the fact that in his district 124 children out of 1000 die during their first year, attributes much of the mortality to "inflammatory diseases, cerebral and pulmonary," caused by exposure in perambulators. Dr. Taylor, of Scarborough, also lays much stress on the matter of wind-pressure to which the perambulator exposes children, in the causation of diseases of the throat and chest.

Medical and Surgical Journal.

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THE NEW YORK SOCIETY FOR THE PREVENTION OF CONTAGIOUS DISEASES.

THERE has lately been organized and incorporated the "New York Society for the Prevention of Contagious Diseases," which has for its objects, first, to endeavor to prevent the dissemination of syphilis and other contagious venereal diseases in the city of New York; *second*, to oppose all measures having for their object the State regulation of vice, and by establishing sanitary surveillance without legislation, do away with any excuse for such regulation; and, *third*, to establish an infirmary for the reception and gratuitous medical and surgical care of such persons as may be afflicted with venereal disease. Among the Directors are the Hon. Charles Donohue, Judge of the Supreme Court, Coroner Ferdinand Levy, ex-Congressman Benjamin A. Willis, and Drs. T. Gaillard Thomas, Alfred L. Loomis, James O'Reilly, Herman Lœwenthal, and John Alsdorf. Dr. Lœwenthal is the President, and Dr. Alsdorf, the Secretary.

In the announcement of the Society which has recently been published it is further stated that any person afflicted with venereal disease will receive medical and surgical treatment, also medicine, free of charge; that agents will be sent out to search among those so afflicted who are unable to pay a physician, and feel reluctant to enter the public dispensary or general hospital (on account of the exposure and supposed degredation), and urge them to apply to the Society for free treatment; and that the infirmary is to be made the centre of the Society's best work. The announcement also contains the address of Dr. Alsdorf before the Legislative Committee on Public Health, at Albany, February 24, 1886, and the report of the Committee of the American Public Health Association, on a Plan for the Prevention of the Spread of Venereal Diseases, by Albert Gihon, M.D., Medical Director, U. S. Army, Chairman. The former states that the practical work of the Society, until experience may develop other and better methods, will be as follows:

The general public will be appealed to for the necessary funds; competent physicians will be appointed to act as agents, and paid for their services out of the funds of the Society; blank reports will be sent to all of the physicians and medical institutions in the city of New York, their coöperation solicited, and a request made that whenever a patient comes to their office, or any medical institution with which they may be connected, affected with syphilis, they will endeavor to find out where the disease was contracted, and, if possible, the name of the infected person, and report to the Society. Upon such information the agents of the Society will proceed to the designated house, ask permission to examine the suspected persons, and, when they are found, persuade them to submit to medical treatment. In this manner, it is hoped, many sources of infection will be "nipped in the bud," and the community at large reap the benefit. The infirmary has already been opened in West 42d Street.

Whatever private opinion any one may entertain in regard to State control and limitation of the spread of syphilis by legal enactment, all will probably agree that anything resembling license or "contagious diseases" acts, is certainly at present, impossible in this country. Even in countries in which prostitution is regulated by law there is difference of opinion as to the good accomplished in the diminution of contagious disease, as they are spread by the clandestine prostitute quite as widely as by the publicly known and legally recognized one. In general the difficulty in all systems arises from the inability to isolate persons capable of communicating syphilis during the whole time in which they are objects of danger, and this difficulty is greatest when the continuance under treatment is simply a matter of choice on the part of the diseased. When the restraint of a hospital becomes irksome or the discomfort from the disease has disappeared the patient will leave the hospital. Any attempt to regulate the matter by law in this country would be sure to awaken an opposition which would certainly equal, if not surpass, the opposition in England to the contagious diseases acts.

There is no doubt that syphilis has largely increased in this country in the last year, and no combined efforts are being made to check its spread. In fact, many, if not most, of our hospitals have regulations which forbid the admission of syphilitic patients, and hospitals for its special treatment hardly exist. Some such organization as the projected one in New York, offers the only means by which to combat the growing evil, without exciting at the same time violent opposition, and though it would be very easy to point out great difficulties in the way of any marked success, every one who wishes well to his fellow beings, must at least, hope that its first object will be attained.

THE NATURE OF ASTHMA.

GERMAIN SÉE has published an exhaustive study on the nature of asthma,[1] in which he re-states and re-inforces views which he has taught for the last twenty years, and which are held by him in common with

[1] Asthme Pneumobulbaire, in Maladies Simples des Poumons, Paris, 1886.

Jaccoud and Riegel (as the most recent contribution of the latter testifies).

Professor Sée comprehends all the asthmas under the general designation of neuroses of the pneumogastric. Of these, there are four types; the first is nervous asthma proper, which Sée calls pneumo-bulbar asthma. Here the neurotic element predominates. The second is alveolar asthma, in which the element of emphysema, which always makes an integral part of nervous asthma when once established, predominates. The third type is bronchial asthma, which is characterized by predominance of the catarrhal element. The fourth type is constituted by cardiac and kindred asthmas, which are the pseudo-asthmas.

Asthma, which included under the old authors, all forms of dyspnœa, had almost disappeared from nosology early in this century, in what we may term the era of pathological anatomy, being regarded as only a symptom of certain lesions of the heart, aorta, or lungs. Laennec still later differentiated from bronchial catarrh and emphysema a distinct neurosis, which he called essential asthma. Sée, claiming that essential asthma always has more or less of emphysema and bronchial catarrh as its accompaniments or sequelæ, has re-constituted asthma on its true clinical basis, in other words, asthma is a *trilogy*, nervous, mechanical, and secretory.

Asthma, however, constitutes an independent disease only on condition of having a nervous origin. It is primordially a neurosis, always characterized by paroxysms, whose features, mechanism, and localization are well defined.

This neurosis has its seat in the respiratory centre of the medulla oblongata. It originates in an innate or acquired reflex hyper-excitability of this part of the central nervous system. The ordinary (immediate) cause of the paroxysm, which, from its resemblance to an epileptic fit, Von Helmont long ago designated as *epilepsy of the lung* — a term afterwards adopted by Trousseau — is an irritation in some of the sensory, terminal filaments of the vagus; this irritation may be due to certain atmospheric conditions characterized by dampness and chilliness, the presence of noxious vapors, of pollen dust, of low organisms, or it may be of gastric or hepatic origin; the impression is conveyed along the fibres of the vagus to the bulbus, and thence reflected upon the motor nerves of inspiration, notably the phrenic; the result is spasm (tetanoid contraction, Sée) of the diaphragm. Experimentation shows that the thorax is fixed in the inspiratory period, being dilated to its fullest extent, while the diaphragm is depressed to the maximum of its contraction (Jaccoud). When the bulbar excitation becomes enfeebled, the diaphragm and other inspiratory muscles relax and a passive expiration takes place, in which the elasticity of the costal cartilages, ribs and pulmonary texture is principally concerned. The cessation or exhaustion of the abnormal stimulation leads to re-establishment of the respirations.

Physiological experimentation has never yet reproduced all the phenomena which characterize typical asthma; neither irritation nor section of the vagus gives the entire tableau, though section of the vagus nerves is followed by considerable dyspnœa and emphysema. As for the theory of spasm of the bronchi, which has so long held the field, its inadequacy was first shown by Wintrich, and Riegel, who, in Ziemssen's "Cyclopædia," defends the popular view, has lately abandoned it for the more rational theory above mentioned, which is the result of rigorous observation and careful experimentation.

As regards the function of the bronchial muscles, there is much speculation, and but little that is definitely known. In normal respiration their rôle must be a very limited one, since even electrical excitations but rarely succeed in causing their contraction. If they had the part in the production of emphysema attributed to them by Biermer, Trousseau, and others, we should have to assume that these little muscular sphincters, acting in concert throughout the entire respiratory tract, are able, by closing the bronchi, to overcome the elastic energy of the lungs, which represents four-fifths of the rectractile forces, the elasticity of the costal cartilages and ribs, the contraction of the abdominal muscles, the atmospheric pressure on the surface of the thorax and abdomen, and the counter-pressure of the intestines with their gaseous and other contents.

Among the pathological changes attending asthma, are pulmonary emphysema, bronchial catarrh, and lesions of the heart and aorta. The emphysema is explained by the enormous pulmonary distension resulting from the exaggerated inspiratory act, and the gradual and ultimately permanent loss of elasticity by over-stretching of the lung tissue. Expiration becomes more and more difficult and incomplete, and the lung eventually becomes as destitute of retractile power as a piece of parchment; we have, in fact, all the phenomena of the forced lung.

With regard to the bronchial catarrh accompanying and following attacks of true asthma, the pathogeny is more obscure. The catarrh is of undoubted inflammatory origin; there is vascular dilatation and stasis of the blood current, with mucous extravasation and diapedesis of leucocytes. The dilatation of the blood-vessels is easily explained by reflex excitation of the vaso-dilators through proximity of the vaso-motor centre in the bulbus to the respiratory centre, but the trophic, parenchymatous changes which (rather than any vaso-motor disorders) constitute inflammation, have not yet been satisfactorily accounted for.

The cardiac lesions which succeed the pulmonary emphysema of asthma are much more easily understood when we consider the solidarity which exists between the lungs and heart. All lung diseases characterized by persistent blood stases are likely to be attended with dilatation of the heart and aorta, and eventually, asystolia and all the phenomena of the forced heart; and chronic pulmonary emphysema is especially likely to produce these results.

THE THERAPEUTIC USES OF CUS.

In looking over the files of our esteemed contemporary, the *Dublin Journal of Medical Science*, for another purpose, we have recently noticed an article on "Cus" commending it as a reliable tænicide, with remarks as to the method of preparation that yields the most forcible product.

We have no doubt it has been used in this country by patients affected by parasites, in fact, its association with helminthiasis is, to the minds of many, quite natural, but its employment certainly has not been restricted to that or any other special field. The native product, *C. Americana*, is said to embrace a large number of varieties and to attain a greater exuberance of development than its congeners of any other clime. In the mining regions of the Rocky Mountains and the Pacific coast, we find the *C. occidentalis*, a variegated and particularly florid specimen. It is used in large quantities and seems to be applicable to all conditions, much like quinine in the South, or whiskey in New York. It is not, however, incompatible with the latter drug. The dose varies greatly. It is usually repeated p. r. n., although we are bound to say that its effect is entirely incommensurate with the popularity of the agent.

The philological reflection, which comes late in the reading of the article in question, that possibly our contemporary may have had reference to the diversely spelled Kousso, (Brayera, U. S. P.), would of course vitiate the above description. But in view of the much greater importance in this country of the agent we have described, we prefer to accept the more obvious interpretation.

MEDICAL NOTES.

— Another death from rabies of a patient who had been inoculated by Pasteur is announced. The patient was bitten by a mad dog on May 11th, and was inoculated on May 25th. On June 5th evidence of rabies began to appear and on June 7th he died. This is the eighth death among some nine hundred and fifty patients who have thus far been treated by Pasteur.

— Certain of the local health boards in this State have been aware for some time that the class of medical practitioners known as "Christian scientists" have not complied with the statute, requiring the notification of infectious diseases by the attendant physician. In Worcester, last week, practical evidence of such neglect was obtained. A child in Lake View was taken with scarlet fever, and one of the "Christian scientists" was given charge of the case. Not till the patient was in the third week of the malady, and in the desquamating stage, did the city physician learn the facts. He summoned the practitioner, a young lady, and questioned her in regard to it. She did not profess to know what was the matter with the child, and declared that under her treatment it was quite immaterial. She was equally sure that her method would prevent any contagion. Entirely ignorant of the medical practice of any of the accepted schools, she did not even know of the statutory provision requiring the report of the case. The statute provides for a fine of $20 for every neglect to so report, and the young woman is, of course, liable to such punishment, as is also the father of the child. The board have the matter under consideration at present. Any future cases coming to their attention will, we learn, be prosecuted at once. Heads of families are liable under this law. If no physician is called, the prosecution will fall upon the householder, and ignorance is no legal defence. As to the liability of the practitioner, the law provides that any one taking charge of a case is regarded as a medical practitioner. It is undoubtedly owing to such cases and such treatment as the above, says the *Worcester Spy*, that various districts of the city have suffered recently from local epidemics, a knowledge of which in due time by the authorities would have led to their prompt suppression.

NEW YORK.

— The degree of LL. D. was conferred upon Dr. John C. Dalton, President of the College of Physicians and Surgeons, by Princeton College, at its recent commencement.

— At a meeting of the State Board of Health at Albany, June 23d, a special committee was appointed to investigate and report on the effect of the building of the proposed Quaker Bridge dam and the new aqueduct upon the purity of the water-supply of New York.

— On the 21st of June, there was opened on Glen Island, in Long Island Sound, near New Rochelle, a "Military Camp of Instruction in Marching," under the superintendence of the veteran pedestrian, Edward Payson Weston. The competitors, who are made up of members of the various militia regiments, are each to walk twelve hours a day for six days, carrying forty and a half pounds in the way of knapsacks and accoutrements, and the camp will be continued for nine weeks. On the opening day, an address was delivered by Prof. R. Ogden Doremus, in which he referred to Weston as the father of walking in this country, stating that since 1867, he had walked 63,500 miles, and that Dr. Richardson, who examined him in London, pronounced him the healthiest man he had ever examined. He concluded as follows: "I would advise all, if they desire good health, to sweat daily as the result of physical exercise. Gentlemen, I look upon this camp as the initiative step toward splendid results in our country."

— Mayor Grace has sent a recommendation to Governor Hill that General Alexander Shaler be removed from the position of President of the New York Health Department, on the charges preferred against him. He assigns the following reasons for the removal: *First*, that while an officer of the city of New York and head of one of its departments, he became directly interested in the sale and purchase by the city of a certain plot of land, and was directly or indirectly interested in the contract for this purchase.

Second, that he committed a fraud upon the city,

and converted public property to his own use, in that he received a part of the profit, commission, or brokerage of $12,000, which Monmouth B. Wilson, as the agent of the owner of the property, received for its sale to the city.

Third, that while President of the Board of Health of this city, he accepted a gift or promise thereof, under an agreement or understanding that his vote or action should be influenced thereby, in respect of the purchase of the property; that the property was purchased by the city on his recommendation as a member of the Armory Board; and that he was induced to vote for the purchase by the promise or agreement of Wilson that he would appropriate of the profits derived by him for the extinguishment of Shaler's individual and personal debts.

The Mayor also sent the Governor a copy of the evidence taken on the public trial of the charges, when the jury disagreed.

Miscellany.

DR. HOLMES IN ENGLAND.

OF the enthusiastic reception which has been accorded our illustrious countryman in England, the *British Medical Journal* thus speaks:—"Dr. Holmes has met with an exceptional warm reception in this country. Seldom has any visitor to our shores received the homage of a more universally affectionate and respectful greeting from every class of society. There are few men in our generation who have ever received a more flattering welcome from all the noblest and best elements of English society. Since the visit of Longfellow, perhaps no other American has been received with such unanimous and affectionate enthusiasm. He has seen the best and most brilliant side of London society, and has made the personal acquaintance of all that England can boast that is most representative in rank, wealth, intellect, statesmanship, and humanitarian energy. Dr. Holmes has reached an age when common prudence compels a man to husband his resources, and to limit the tax upon his physical energies; and he has not been able, therefore, in the overwhelming calls upon his time, and the flattering offers of hospitality from all sides, to fulfil more than a tithe of the opportunities that were offered him of studying the institutions, and extending his acquaintance with all classes of the country, in the limited time at his disposal. Seeking rest and recreation, and declining public receptions, he has, nevertheless, availed himself of various opportunities of indentifying himself with the profession which he adorns and which is proud to claim him among its members. He has been seen at more than one medical house, and has made the acquaintance of most of the leading men in London during his short stay here. On Wednesday last, after dining with Sir Henry Thompson, who had assembled to meet him a small party, including Mr. Gladstone, Mr. John Morley, Mr. Robert Browning, Sir James Hannen, Sir James Paget, Professor Masson, Mr. Alma Tadema, Mr. Du Maurier, Mr. Knowles, and Mr. Ernest Hart, Dr. Holmes attended the *soirée* at the Royal College of Surgeons, and paid his respects to the President, Mr. Savory. He took the opportunity of going through parts of the museum in which he was particularly interested, under the guidance of of Sir James Paget. Dr. Holmes expressed not only his delight and high admiration at this magnificent museum, and the unparalleled scene it presented, but was particularly interested, and especially admired the complete typical osteological specimens arranged by Professor Flower for the purpose of anatomical study. Dr. Holmes, although advanced in years, retains all the vivacity and sympathetic flexibility of mind which are characteristic of the fullest vigor and freshness of mind. It is fifty years since he had visited London. He then made the acquaintance of Lawrence, Brodie, Tyrrell, MacMurdo, Abernethy, and some of their contemporaries. He makes this week a visit to Lord Tennyson, after which he will go to Oxford and Cambridge, and probably to Edinburgh, to receive the honorary degrees which those Universities propose to confer on him. In receiving Dr Holmes with such unanimous enthusiasm, English society has done much to vindicate its claim to sound catholicity, and sincere appreciation of the most wholesome and penetrating genius. More than one Royal and illustrious visitor has been present to London during the season. None has received so warm, unforced, and universal a welcome as the 'Autocrat of the Breakfast Table.'"

HOMICIDE AND MUTILATION.

DR. MATTHEW HAY reviews the case reported by Michelsen (Waldenburg) (*Viertelj. für gerichtl. Med.*, Band xliii), of an interesting and peculiar case of the murder of a young girl three years old. The child suddenly disappeared from her home, and her remains, much mutilated, were found two and a half weeks afterward in an adjoining field. Another girl, ten years old, then confessed to having felled the child to the ground with a rake in a neighboring potato-field. She went home and informed her own mother of what she had done, at whose suggestion she returned to the field, placed the child in a sack above some potatoes, and brought the sack on a wheelbarrow to her mother's house. The girl alleged that when her mother opened the sack, the child regained consciousness and screamed, and that her mother then took the child to a cellar beneath and murdered it. This the mother altogether denied. Michelsen gave it as his opinion, after a necropsy, that the child had been suffocated by earth pushed into its mouth and throat, and that its body had been afterwards partly roasted and hewn into several pieces. The earth in the child's throat and trachea had the same composition, chemical and otherwise, as that of the potato-field, and was different from the earth taken from the cellar-floor. The mother was, however, convicted of murder, and sentenced to death, the sentence being afterwards commuted to penal servitude for life. She then confessed that her daughter's statement was true, the latter had brought the child, as described, to the house with an ugly gash on its head. To conceal the daughter's crime, she resolved to kill the child outright. She therefore took it to the cellar and stuffed its mouth with the loose earth lying beside the potatoes — therefore earth from the potato-field. Here it lay for some days, when, as it began to decompose and smell, she placed the corpse over a fire in order to burn it. This method of destruction proving imperfect, the body was hacked to pieces, and the main

portion of it carried to the field, in which it was eventually found. — *Dublin Journal of Medical Science, June.*

Correspondence.

SPARTEINE AT HOME.

MR. EDITOR, — The expensive Sparteine lately recommended by Germain Sée for cardiac weakness, is prepared from Scotch broom, — spartium scoparium, — the *Planta Genista* or emblem of the Plantaganets, which grows in many parts of the thirteen original States, on sterile soil. It was brought over here by the Scotch and English to prevent the washing of gravelly roads and gutters. It should be cut and gathered at this season and dried like hay. Its active principle is extremely soluble in water, and two ounces of ground or contused stems to a quart of boiling water, a wine-glassful for a dose, every eight hours, is equivalent to a grain and a half of the prepared gum used by Dr. Sée. This remedy is useful not only in failure of the cardiac ganglia but as a tonic to the organic and vaso-motor nerves in whatever part of the body congestions occur from loss of power in them. I have used this agent in the form of infusion for half a century and with marked advantage in many cases. Yours truly,

THOMAS H. BUCKLER, M.D.

CLIFTON, MD., June 21.

REPORTED MORTALITY FOR THE WEEK ENDING JUNE 19, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Whoopi'g Cough.	Diph. and Croup.
New York	1,439,039	623	230	22.40	15.20	6.04	1.92	8.16
Philadelphia	971,363	315	110	15.68	14.72	5.34	.96	2.24
Brooklyn	690,000	—	—	—	—	—	—	—
Chicago	630,000	—	—	—	—	—	—	—
Boston	390,406	143	34	12.60	21.00	4.20	.70	3.50
St. Louis	400,000	—	—	—	—	—	—	—
Baltimore	417,220	169	85	22.42	11.21	12.39	1.18	.59
Cincinnati	325,000	96	65	30.16	10.42	22.88	—	4.16
New Orleans, June 5th,	238,000	123	52	22.68	14.58	17.82	—	1.62
Buffalo	202,818	—	—	—	—	—	—	—
District of Columbia	205,000	—	—	—	—	—	—	—
Pittsburgh	190,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	118,070	32	5	6.26	25.04	3.13	—	3.13
New Haven	78,000	—	—	—	—	—	—	—
Nashville	60,000	22	7	22.75	27.30	22.75	—	—
Charleston	60,145	—	—	—	—	—	—	—
Worcester	68,383	19	6	—	5.26	—	—	—
Lowell	64,051	—	—	—	—	—	—	—
Cambridge	59,660	16	6	25.00	18.75	6.25	—	18.75
Fall River	56,863	16	4	6.25	18.75	6.25	—	—
Lynn	45,861	13	5	—	15.38	—	—	—
Lawrence	38,825	7	2	14.28	14.28	—	—	—
Springfield	37,577	11	4	—	27.27	—	—	—
New Bedford	33,393	12	4	—	16.66	—	—	—
Somerville	29,992	—	—	—	—	—	—	—
Salem	28,084	8	2	—	37.50	—	—	—
Holyoke	27,894	—	—	—	—	—	—	—
Chelsea	25,709	3	2	66.66	—	33.33	—	33.33
Taunton	23,674	2	0	—	—	—	—	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	—	—	—	—	—	—	—
Brockton	20,783	4	1	—	25.00	—	—	—
Newton	19,759	5	1	20.00	20.00	—	—	—
Malden	16,407	1	0	—	—	—	—	—
Fitchburg	15,375	8	0	—	—	—	—	—
Waltham	14,609	2	0	—	—	—	—	—
Newburyport	13,716	4	2	—	50.00	—	—	—
Northampton	12,896	—	—	—	—	—	—	—
Massachusetts Towns	—	—	—	—	—	—	—	—

Deaths reported 1,654: under five years of age 627: principal infectious diseases (small-pox, measles, diphtheria, and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 309, consumption 254, lung diseases 132, diarrhœal diseases 135, diphtheria and croup 75, scarlet fever 21, whooping-cough 18, measles 16, typhoid fever 16, malarial fever 13, cerebro-spinal meningitis nine, erysipelas five, small-pox (New York) one. From scarlet fever, Philadelphia eight, New York seven, Boston and Cincinnati two each, Baltimore and Lawrence one each. From measles, Baltimore 11, New York five. From typhoid fever, Philadelphia eight, Boston three, New York and Baltimore two each, Newton one. From malarial fevers, New York six, Philadelphia four, New Orleans three. From cerebro-spinal meningitis, New York five, Philadelphia, Cincinnati, New Orleans and Worcester one each. From erysipelas, New York three, Philadelphia and Boston one each.

In 20 cities and greater towns of Massachusetts, with a population of 946,718 (population of the State 1,941,465), the total death-rate for the week was 15.49 against 18.26 and 17.09 for the two preceding weeks.

For the week ending June 5th, in the Swiss towns, there were 41 deaths from consumption, lung diseases 31, diarrhœal diseases 12, whooping-cough 10, measles 10, small-pox four, diphtheria and croup four, typhoid fever one.

The death-rates were: at Zurich 26.7; Geneva 13.1; Basle 15.5; Berne 29.4.

In the 28 greater towns of England and Wales, with an estimated population of 9,093,817, for the week ending June 5th the death-rate was 17.0. Deaths reported 2,957: infants under one year of age 680: measles 95, whooping-cough 74, diarrhœa 42, scarlet fever 29, diphtheria 20, fever 19.

The death-rates ranged from 13.0 in Norwich to 31.9 in Preston; Birkenhead 19.7; Birmingham 19.8; Bradford 16.2; Hull 13.4; Leeds 18.5; Leicester 16.4; Liverpool 19.8; London 15.5; Manchester 21.7; Newcastle-on-Tyne 18.2; Sheffield 14.6; Sunderland 16.4.

The meteorological record for week ending June 19, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps: —

Week ending Saturday, June 19, 1886.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday, ...13	30.104	53.5	57.0	52.2	96.0	97.0	98.0	97.0	S.E.	E.	S.E.	4	4	7	O.	R.	O.	— —	— —
Monday, .. 14	30.060	54.1	55.5	52.1	87.0	90.0	96.0	91.0	E.	E.	E.	7	9	7	O.	O.	R.	— —	— —
Tuesday, ..15	30.000	55.7	57.9	53.1	100.0	86.0	96.0	94.8	E.	E.	S.E.	9	11	4	R.	O.	C.	— —	— —
Wednes., 16	29.805	63.6	75.3	53.5	97.0	87.0	81.0	87.7	E.	S.E.	S.W.	1	6	10	O.	O.	C.	— —	— —
Thursday, 17	29.529	70.6	77.9	66.8	84.0	84.0	90.0	86.0	S.W.	S.W.	W.	10	14	11	O.	O.	O.	— —	— —
Friday, ...18	29.773	64.7	72.6	56.7	66.0	41.0	45.0	50.7	W.	W.	N.	20	18	8	F.	O.	F.	— —	— —
Saturday, .19	30.115	58.3	63.1	51.0	57.0	50.0	69.0	58.7	N.	S.E.	S.W.	9	10	4	O.	C.	C.	.18	0.45
Mean, the Week.	29.912	60.1	65.6	55.0				80.7											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JUNE 19, 1886, TO JUNE 25, 1886.

PERIN, GLOVER, colonel and assistant surgeon general. Granted leave of absence for one month, with permission to apply for one month's extension. S. O. 54, Department of Dakota, June 14, 1886.

BROOKE, JNO., major and surgeon. Ordered for duty as post-surgeon, Fort McHenry, Baltimore, Md. S. O. 67, Division of the Atlantic, June 23, 1886.

DEWITT, CALVIN, major and surgeon. Ordered for duty in Department of Dakota. S. O. 142, A. G. O., June 21, 1886.

GARDINER, JNO. DE B. W., captain and assistant surgeon. Ordered for duty as post-surgeon, Newport Barracks, Newport, Ky. S. O. 67, Division of the Atlantic, June 23, 1886.

GIBSON, ROBERT J., captain and assistant surgeon. Granted leave of absence for thirty-five days. S. O. 43, Division of the Pacific, June 14, 1886.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING JUNE 26, 1886.

BEARDSLEY, GROVE S., medical inspector. Detached from the Navy Yard, Norfolk, and ordered to the "Brooklyn."

BRIGHT, G. A., surgeon. Detached from "Brooklyn" and ordered to Navy Yard, Norfolk.

OBITUARY. — STEPHEN TRUMBULL, M.D.

We regret to announce the death of this young physician which occurred at sea during his passage to Valparaiso, Chili, where his family are and where he intended to establish himself in practice. He was graduated at the Harvard Medical School in 1884, and had just completed a service as house physician at the Rhode Island Hospital. Particulars of the cause of his death are wanting, but it is believed to have been due to isthmus fever.

CORRECTION.

JUNE 26, 1886.

MR. EDITOR, — I regret to notice in this week's *Medical and Surgical Journal*, that the cut illustrating my remarks upon an axis traction appliance, has been inverted. If reversed it gives a much more comprehensible idea of the instrument and of the method of application. Very truly yours,

R. A. KINGMAN, M.D.

BOOKS AND PAMPHLETS RECEIVED.

Hospital for Diseases of the Throat. Statement by the Medical Council to the Committee of Management on the Differences that have lately arisen between these two Bodies. Action of the Committee, etc.

Boston Society of Civil Engineers. Comparative Size of Metric and Old Units, with Reference to Convenience. By Fred. Brooks, Member of the Society. Report of Committee on Weights and Measures. (Reprint from the Journal of the Association of Engineering Societies, May, 1886.)

Report of the Board of Managers of the Pennsylvania Hospital to the Contributors, at their Annual Meeting held June 3, 1886. Comprising the Reports of the Department for the Sick and Wounded and of the Department for the Insane, together with the Accounts of the Treasurer and Stewards. Philadelphia. 1886.

Medicine of the Future. An Address prepared for the Annual Meeting of the British Medical Association in 1886. By Austin Flint (Senior), M.D., LL.D. New York: D. Appleton & Co. 1886.

A Treatise on the Diseases of the Nervous System. By Wm. A. Hammond, M.D. With 112 illustrations. Eighth Edition, with corrections and additions. New York: D. Appleton & Co. 1886.

Official Report of the Memorial Meeting of the New York County Medical Association in honor of the late Austin Flint, M.D., LL.D., held at the Carnegie Laboratory, Bellevue Hospital Medical College, New York, April 19, 1886. (Reprinted from Gaillard's Medical Journal, for June, 1886.)

Is Disease of the Uterine Appendages as frequent as it has been represented? By Henry C. Coe, M.D., M.R.C.S., L.R.C.P. London. (Reprinted from the Journal of Obstetrics and Diseases of Women and Children.)

Report of a Special Committee of the Chamber of Commerce of the State of New York, on the Rules and Regulations of the Health Officers of the Port of New York, relative to the Disinfection of Imported Rags. Adopted by the Chamber. June 3, 1886. New York.

A Lecture on the Code of Medical Ethics. By G. E. Frothingham, M.D., Professor of Ophthalmology, etc., University of Michigan. Delivered before the Student's Social Science Association, December 15, 1885.

Twenty-Second Report of the Trustees of the City Hospital, Boston, with Reports of the Superintendent and Professional Staff, Rules for Admissions and Discharges, Prospectus of the Training School for Nurses, etc., 1885. Boston. 1886.

Report of the Health of Liverpool during the Year 1885, with Map showing the Localities of the fatal Prevalence of Fever. By J. Stopford Taylor, M.D., Medical Officer. 1886.

Sketch of the Early History of Anatomy. By Francis J. Shepherd, M.D., Professor of Anatomy, McGill University. (Reprint from Canada Medical and Surgical Journal.)

188th International Electrical Exhibition. Report of Examiners of Section xxiii. Electro-Medical Apparatus.

Eleven Cases of Phthisis treated by Intra-Pulmonary Injections of Carbolized Iodine. By John Blake White, M.D. (Reprinted from the Medical Record, May 22, 1886.)

On the Affections of the Skin induced by Temperature Variations in Cold Weather, with Incidental Reference to the so-called "Prairie Itch," "Ohio Scratches," "Michigan Itch," "Texas Mange," "Camp Itch," "Prairie Digs," "Lumbermen's Itch," etc. By James Nevins Hyde, M.D., Professor of Skin and Venereal Diseases, Rush Medical College, Chicago, 1886.

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